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## SEQUENCE LISTING

- <10> Li, Li  
Furtak, Kazarzyna  
Perna, Amanda  
Patturajan, Meera  
Shimkets, Richard A  
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Burgess, Catherine E  
Malyankar, Uriel M  
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Vernet, Corrine A  
Spytek, Kimberly A  
Agee, Michele  
Rastelli, Luca  
Shenoy, Suresh G  
Grosse, William M  
Alsobrook II, John P  
Lepley, Denise M  
Gerlach, Valerie  
Edinger, Schlomit  
MacDougall, John R  
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Gunther, Erik  
Stone, David J  
Ellerman, Karen  
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<211> 799

<212> PRT

<213> Homo sapiens

<400> 10

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Pro Phe Ser Ser Ala Leu Leu Ser Pro Pro Pro Ala Ala Leu Pro Phe
      35              40              45

Leu Leu Leu Leu Trp Ala Gly Ala Ser Arg Gly Gln Pro Cys Pro Gly
      50              55              60

Arg Cys Ile Cys Gln Asn Val Ala Pro Thr Leu Thr Met Leu Cys Ala
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Lys Thr Gly Leu Leu Phe Val Pro Pro Ala Ile Asp Arg Arg Val Val
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Glu Leu Arg Leu Thr Asp Asn Phe Ile Ala Ala Val Arg Arg Arg Asp
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Phe Ala Asn Met Thr Ser Leu Val His Leu Thr Leu Ser Arg Asn Thr
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Glu Pro Gly Ser Ser Asp Ile Ala Thr Pro Gly Arg Pro Gly Ala Asn  
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 Arg Met Ile Pro Ser Thr Ser Gln Thr Phe Leu Val Asn Asp Leu Ala  
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 Ala Gly Arg Ala Tyr Asp Leu Cys Val Leu Ala Val Tyr Asp Asp Gly  
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 Thr Ala Gly Asp Pro Ala Pro Cys Arg Pro Leu Arg Ala His Phe Leu  
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 Gly Gly Thr Met Ile Ile Ala Ile Gly Gly Val Ile Val Ala Ser Val  
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 His Val Cys Ser Gln Thr Asn Gly Ala Gly Thr Gly Ala Ala Gln Ala  
 610 615 620  
 Pro Ala Leu Pro Ala Gln Asp His Tyr Glu Ala Leu Arg Glu Val Glu  
 625 630 635 640  
 Ser Gln Ala Ala Pro Ala Val Ala Val Glu Ala Lys Ala Met Glu Ala  
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 Glu Thr Ala Ser Ala Glu Pro Glu Val Val Leu Gly Arg Ser Leu Gly  
 660 665 670  
 Gly Ser Ala Thr Ser Leu Cys Leu Leu Pro Ser Glu Glu Thr Ser Gly  
 675 680 685  
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 690 695 700  
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 Gly Ala Ala Ala Arg Pro Arg Pro Gln Gln Arg Tyr Ser Phe Asp Gly  
 725 730 735

Asp Tyr Gly Ala Leu Phe Gln Ser His Ser Tyr Pro Arg Arg Ala Arg  
 740 745 750  
 Arg Thr Lys Arg His Arg Ser Thr Pro His Leu Asp Gly Ala Gly Gly  
 755 760 765  
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 <212> DNA  
 <213> Homo sapiens

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<210> 12  
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 <212> PRT  
 <213> Homo sapiens

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      35              40              45

Lys Asp Lys Ala Ile Leu Asp Ile Glu Arg Pro Asp Leu Met Ile Tyr
      50              55              60

Glu Pro His Phe Thr Tyr Ser Leu Leu Glu His Val Glu Leu Pro Arg
      65              70              75              80

Ser Arg Glu Arg Ser Leu Ser Pro Lys Ser Thr Ser Pro Pro Pro Ser
      85              90              95

Pro Glu Val Trp Ala Asp Ser Arg Ser Pro Gly Ile Ile Ser Gln Ala
      100             105             110

Ser Ala Pro Arg Thr Thr Gly Thr Pro Arg Thr Arg Leu Pro His Phe
      115             120             125

His His Pro Glu Thr Ser Arg Pro Asp Ser Asn Ile Tyr Lys Lys Pro
      130             135             140

Pro Ile Tyr Lys Gln Arg Glu Ser Val Gly Gly Ser Pro Gln Thr Lys
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His Leu Ile Glu Asp Leu Ile Ile Glu Ser Ser Lys Phe Pro Ala Ala
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Gln Pro Pro Asp Pro Asn Gln Pro Ala Lys Ile Glu Thr Asp Tyr Trp
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Pro Cys Pro Pro Ser Leu Ala Val Val Glu Thr Glu Trp Arg Lys Arg
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Lys Ala Ser Arg Arg Gly Ala Glu Glu Glu Glu Glu Glu Glu Asp Asp
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 260 265 270  
 Arg Thr Pro Phe His Thr Ser Leu His Gln Gly Thr Ser Lys Ser Ser  
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 Ser Leu Pro Ala Tyr Gly Arg Thr Thr Leu Ser Arg Leu Gln Ser Thr  
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 Glu Phe Ser Pro Ser Gly Ser Glu Thr Gly Ser Pro Gly Leu Gln Ile  
 305 310 315 320  
 Tyr Pro Tyr Glu Met Leu Val Val Thr Asn Lys Gly Arg Thr Lys Leu  
 325 330 335  
 Pro Pro Gly Val Asp Arg Met Arg Leu Glu Arg His Leu Ser Ala Glu  
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<211> 3447

<212> DNA

<213> Homo sapiens

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<211> 977

<212> PRT

<213> Homo sapiens

<400> 14

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Gln	Ile	Val	Leu	Leu	Pro	Ala	Glu	Ala	Arg	Gln	Arg	Ser	Arg	Gly	Arg
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Ser	Ile	Ser	Arg	Gly	Arg	His	Ala	Arg	Thr	His	Pro	Gln	Thr	Ala	Leu
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<212> DNA

<213> Homo sapiens

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&lt;211&gt; 458

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

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<212> PRT

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```

```

His Gln Pro Ser Ala Leu Gly Tyr Ser Pro Ser Leu His Ile Leu Ala
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Ile Gly Thr Arg Ser Gly Ala Ile Lys Leu Tyr Gly Ala Pro Gly Val
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Glu Phe Met Gly Leu His Gln Glu Asn Asn Ala Val Thr Gln Ile His
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Leu Leu Pro Gly Gln Cys Gln Leu Val Thr Leu Leu Asp Asp Asn Ser
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Leu His Leu Trp Ser Leu Lys Val Lys Gly Gly Ala Ser Glu Leu Gln
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Ala	Thr	Gln	Ile	Thr	Val	Val	Leu	Pro	His	Ser	Ser	Cys	Glu	Leu	Leu		
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Tyr	Leu	Gly	Thr	Glu	Ser	Gly	Asn	Val	Phe	Val	Val	Gln	Leu	Pro	Ala		
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Phe	Arg	Ala	Leu	Glu	Asp	Arg	Thr	Ile	Ser	Ser	Asp	Ala	Val	Leu	Gln		
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Arg	Leu	Pro	Glu	Glu	Ala	Arg	His	Arg	Arg	Val	Phe	Glu	Met	Val	Glu		
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Ser	Arg	Gly	Leu	Val	Val	Ile	Trp	Asp	Leu	Gln	Gly	Ser	Arg	Val	Leu		
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Tyr	His	Phe	Leu	Ser	Ser	Gln	Gln	Leu	Glu	Asn	Ile	Trp	Trp	Gln	Arg		
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Asp	Gly	Arg	Leu	Leu	Val	Ser	Cys	His	Ser	Asp	Gly	Ser	Tyr	Cys	Gln		
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Trp	Pro	Val	Ser	Ser	Glu	Ala	Gln	Gln	Pro	Glu	Pro	Leu	Arg	Ser	Leu		
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Val	Pro	Tyr	Gly	Pro	Phe	Pro	Cys	Lys	Ala	Ile	Thr	Arg	Ile	Leu	Trp		
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Leu	Thr	Thr	Arg	Gln	Gly	Leu	Pro	Phe	Thr	Ile	Phe	Gln	Gly	Gly	Met		
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Gly	Gln	Gln	Thr	Ala	Phe	Asp	Phe	Thr	Ser	Arg	Val	Ile	Gly	Thr	Val		
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Arg	Phe	Trp	Asp	Ala	Ser	Gly	Val	Cys	Leu	Arg	Leu	Leu	Tyr	Lys	Leu		
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Ser	Thr	Val	Arg	Val	Phe	Leu	Thr	Asp	Thr	Asp	Pro	Asn	Glu	Asn	Phe		
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Ser	Ala	Gln	Gly	Glu	Asp	Glu	Trp	Pro	Pro	Leu	Arg	Lys	Val	Gly	Ser		
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Phe	Asp	Pro	Tyr	Ser	Asp	Asp	Pro	Arg	Leu	Gly	Ile	Gln	Lys	Ile	Phe		
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Gly His Glu Arg Leu Ala Ala Arg Ser Gly Pro Val Arg Phe Glu Pro  
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Gly Phe Gln Pro Phe Val Leu Val Gln Cys Gln Pro Pro Ala Val Val  
465 470 475 480  
Thr Ser Leu Ala Leu His Ser Glu Trp Arg Leu Val Ala Phe Gly Thr  
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Ser His Gly Phe Gly Leu Phe Asp His Gln Gln Arg Arg Gln Val Phe  
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Val Lys Cys Thr Leu His Pro Ser Asp Gln Leu Ala Leu Glu Gly Pro  
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Asp Thr Tyr Leu Lys Asp Ser Ser Arg His Cys Pro Ser Leu Trp Ala  
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Ala Glu Arg Arg Met Asp Glu Pro Val Arg Ala Glu Gln Ala Lys Glu  
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Gly His Ser Val Pro Leu Pro Glu Pro Leu Glu Val Ala His Asp Leu  
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Ser Lys Ser Pro Asp Met Gln Gly Ser His Gln Leu Leu Val Val Ser  
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Lys Leu Lys Leu Thr Ala Leu Glu Gly Ser Arg Val Arg Arg Val Ser  
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<213> Homo sapiens

<400> 22

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 Ile Gly Thr Arg Ser Gly Ala Ile Lys Leu Tyr Gly Ala Pro Gly Val  
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 Glu Asp Glu Ser Phe Thr Leu Arg Gly Pro Pro Gly Ala Ala Pro Ser  
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 Ala Thr Gln Ile Thr Val Val Leu Pro His Ser Ser Cys Glu Leu Leu  
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 Tyr Leu Gly Thr Glu Ser Gly Asn Val Phe Val Val Gln Leu Pro Ala  
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 Phe Arg Ala Leu Glu Asp Arg Thr Ile Ser Ser Asp Ala Val Leu Gln  
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 Arg Leu Pro Glu Glu Ala Arg His Arg Arg Val Phe Glu Met Val Glu  
 180 185 190  
 Ala Leu Gln Glu His Pro Arg Asp Pro Asn Gln Ile Leu Ile Gly Tyr  
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 Ser Arg Gly Leu Val Val Ile Trp Asp Leu Gln Gly Ser Arg Val Leu  
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 Tyr His Phe Leu Ser Ser Gln Gln Leu Glu Asn Ile Trp Trp Gln Arg  
 225 230 235 240  
 Asp Gly Arg Leu Leu Val Ser Cys His Ser Asp Gly Ser Tyr Cys Gln  
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 Trp Pro Val Ser Ser Glu Ala Gln Gln Pro Glu Pro Leu Arg Ser Leu  
 260 265 270  
 Val Pro Tyr Gly Pro Phe Pro Cys Lys Ala Ile Thr Arg Ile Leu Trp  
 275 280 285  
 Leu Thr Thr Arg Gln Gly Leu Pro Phe Thr Ile Phe Gln Gly Gly Met  
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 Pro Arg Ala Ser Tyr Gly Asp Arg His Cys Ile Ser Val Ile His Asp  
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Ala	Gly	Trp	Pro	Pro	Val	Gln	Leu	Pro	Tyr	Leu	Ala	Ser	Leu	His	Cys		
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Phe	Trp	Asp	Ala	Ser	Gly	Val	Cys	Leu	Arg	Leu	Leu	Tyr	Lys	Leu	Ser		
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Cys	Lys	Tyr	Ser	Gly	Tyr	Leu	Ala	Val	Ala	Gly	Thr	Ala	Gly	Gln	Val		
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Val	Glu	Ala	Asp	Leu	Leu	Gln	Asp	Gln	Glu	Gly	Tyr	Arg	Trp	Lys	Gly		
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His	Glu	Arg	Leu	Ala	Ala	Arg	Ser	Gly	Pro	Val	Arg	Phe	Glu	Pro	Gly		
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His	Gly	Phe	Gly	Leu	Phe	Asp	His	Gln	Gln	Arg	Arg	Gln	Val	Phe	Val		
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Lys	Cys	Thr	Leu	His	Pro	Ser	Asp	Gln	Leu	Ala	Leu	Glu	Gly	Pro	Leu	625	630	635	640
Ser	Arg	Val	Lys	Ser	Leu	Lys	Lys	Ser	Leu	Arg	Gln	Ser	Phe	Arg	Arg	645	650	655	
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Pro	Gly	Glu	Val	Arg	Pro	Glu	Ala	Gln	Glu	Gly	Ser	Ala	Lys	Ala	Glu	675	680	685	
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 <212> DNA  
 <213> Homo sapiens

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<212> PRT  
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Asp Cys Arg Ala Phe His Tyr Asn Val Ser Ser His Gly Cys Gln Leu  
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Asn Asn Gly Val Gly Tyr Arg Gly Thr Met Ala Thr Thr Val Gly Gly  
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Phe Glu Pro Gly Lys Phe Leu Asp Gln Gly Leu Asp Asp Asn Tyr Cys  
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 His Asn Cys Trp Val Leu Glu Gly Ile Ile Ile Pro Asn Arg Val Cys  
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<211> 1463

<212> DNA

<213> Homo sapiens

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<210> 26



<211> 432

<212> PRT

<213> Homo sapiens

<400> 26

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<211> 1368

<212> DNA

<213> Homo sapiens

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<211> 455

<212> PRT

<213> Homo sapiens

<400> 29

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<210> 30

<211> 1811

<212> DNA

<213> Homo sapiens

<400> 30

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gctgcccattg	gtgtccgcgg	cgggtctctc	tggggatggc	aagatgcgag	gggtgctcct	420
gggtgctgctc	ggccttctct	attcttccac	cagttgtggc	gtccagaaaag	cttccgtttt	480
ctacggtcct	gacccaagg	agggcttggt	cagcagcatg	gagttcccgt	gggtggtgtc	540
gctgcaggac	tcccagtaca	cacacctggc	tttcggctgc	atcctgagcg	agttctgggt	600
cctcagcatc	gcattccgcca	ttcagaacag	gaaggacatt	gtcggttatag	tgggtataag	660
taacatggat	cctagcaaga	ttgctcacac	agagtatcca	gtcaatacca	tcatcatcca	720
tgaggacttt	gataacaact	ccatgagcaa	caacatagcc	ctcctgaaga	cagacacagc	780
gatgcatttt	ggcaacctgg	tccagtcctt	ctgcttcctc	ggcagaatgc	tgcatacacc	840
accagtcttg	cagaactgct	gggtgtcagg	atggaatccc	acatctgcaa	caggaaatca	900
catgacgatg	agtgtcctga	ggaaaatctt	cgtgaaagat	cttgacatgt	gtcccctata	960
caaactccag	aagacagaat	gcggcagcca	cacgaaagag	gaaaccaaga	ctgcctgctt	1020
gggggaccca	ggaagcccaa	tgatgtgcca	gctacagcag	ttcgatctgt	gggttctgag	1080
aggaatcctg	aacttcgggtg	gtgagacgtg	ccctggcctg	tttctgtaca	ccaaggtgga	1140

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agactacagc aaatggatca catccaaggc tgagagggcc ggccctcccc tgtcctcact 1200
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gaccatcacg cattcacgac taggaaacag ctctagagat agtctagatg ttagggagaa 1380
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ttacgggtggg gaggtggggg aaggtaggat ttttgcaggt cagaacagggt tgtatcagcc 1500
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gagctacccc accaaactga agagtaaact gagaatgctg agtgccaggc attcaccatg 1620
ctgttttgat gtctgttttt gatagttgca cactggggct gccacggata agcccatggc 1680
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<210> 31  
 <211> 395  
 <212> PRT  
 <213> Homo sapiens

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<400> 31
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Leu Leu Val Leu Leu Gly Leu Leu Tyr Ser Ser Thr Ser Cys Gly Val
      20              25              30

Gln Lys Ala Ser Val Phe Tyr Gly Pro Asp Pro Lys Glu Gly Leu Val
      35              40              45

Ser Ser Met Glu Phe Pro Trp Val Val Ser Leu Gln Asp Ser Gln Tyr
      50              55              60

Thr His Leu Ala Phe Gly Cys Ile Leu Ser Glu Phe Trp Val Leu Ser
      65              70              75              80

Ile Ala Ser Ala Ile Gln Asn Arg Lys Asp Ile Val Val Ile Val Gly
      85              90              95

Ile Ser Asn Met Asp Pro Ser Lys Ile Ala His Thr Glu Tyr Pro Val
      100             105             110

Asn Thr Ile Ile Ile His Glu Asp Phe Asp Asn Asn Ser Met Ser Asn
      115             120             125

Asn Ile Ala Leu Leu Lys Thr Asp Thr Ala Met His Phe Gly Asn Leu
      130             135             140

Val Gln Ser Ile Cys Phe Leu Gly Arg Met Leu His Thr Pro Pro Val
      145             150             155             160

Leu Gln Asn Cys Trp Val Ser Gly Trp Asn Pro Thr Ser Ala Thr Gly
      165             170             175

Asn His Met Thr Met Ser Val Leu Arg Lys Ile Phe Val Lys Asp Leu
      180             185             190

Asp Met Cys Pro Leu Tyr Lys Leu Gln Lys Thr Glu Cys Gly Ser His

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195					200					205					
Thr	Lys	Glu	Glu	Thr	Lys	Thr	Ala	Cys	Leu	Gly	Asp	Pro	Gly	Ser	Pro
210						215					220				
Met	Met	Cys	Gln	Leu	Gln	Gln	Phe	Asp	Leu	Trp	Val	Leu	Arg	Gly	Ile
225					230					235					240
Leu	Asn	Phe	Gly	Gly	Glu	Thr	Cys	Pro	Gly	Leu	Phe	Leu	Tyr	Thr	Lys
				245					250					255	
Val	Glu	Asp	Tyr	Ser	Lys	Trp	Ile	Thr	Ser	Lys	Ala	Glu	Arg	Ala	Gly
			260					265					270		
Pro	Pro	Leu	Ser	Ser	Leu	His	His	Trp	Glu	Lys	Leu	Ile	Ser	Phe	Ser
		275					280					285			
His	His	Gly	Pro	Asn	Ala	Ala	Met	Thr	Gln	Lys	Thr	Tyr	Ser	Asp	Ser
	290					295					300				
Glu	Leu	Gly	His	Val	Gly	Ser	Tyr	Leu	Gln	Gly	Gln	Arg	Arg	Thr	Ile
305					310					315					320
Thr	His	Ser	Arg	Leu	Gly	Asn	Ser	Ser	Arg	Asp	Ser	Leu	Asp	Val	Arg
				325					330					335	
Glu	Lys	Asp	Val	Lys	Glu	Ser	Gly	Arg	Ser	Pro	Glu	Ala	Ser	Val	Gln
			340					345						350	
Pro	Leu	Tyr	Tyr	Asp	Tyr	Tyr	Gly	Gly	Glu	Val	Gly	Glu	Gly	Arg	Ile
		355					360					365			
Phe	Ala	Gly	Gln	Asn	Arg	Leu	Tyr	Gln	Pro	Glu	Glu	Ile	Ile	Leu	Val
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Ser	Phe	Val	Leu	Val	Phe	Phe	Cys	Ser	Ser	Ile					
385					390					395					

<210> 32  
 <211> 558  
 <212> PRT  
 <213> Mus musculus

<400> 32  
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 Gln Asn Ser Gly Asn Ser Ile Ser Leu Asp Phe Glu Pro Asp Thr Glu  
 20 25 30  
 Tyr Gln Phe Val Glu Gln Leu Glu Glu Arg Tyr Lys Cys Ala Phe Cys  
 35 40 45  
 His Ser Val Leu His Asn Pro His Gln Thr Gly Cys Gly His Arg Phe  
 50 55 60

Cys	Gln	Gln	Cys	Ile	Arg	Ser	Leu	Arg	Glu	Leu	Asn	Ser	Val	Pro	Ile	
65					70					75					80	
Cys	Pro	Val	Asp	Lys	Glu	Val	Ile	Lys	Pro	Gln	Glu	Val	Phe	Lys	Asp	
				85					90					95		
Asn	Cys	Cys	Lys	Arg	Glu	Val	Leu	Asn	Leu	His	Val	Tyr	Cys	Lys	Asn	
			100					105					110			
Ala	Pro	Gly	Cys	Asn	Ala	Arg	Ile	Ile	Leu	Gly	Arg	Phe	Gln	Asp	His	
		115					120					125				
Leu	Gln	His	Cys	Ser	Phe	Gln	Ala	Val	Pro	Cys	Pro	Asn	Glu	Ser	Cys	
	130					135						140				
Arg	Glu	Ala	Met	Leu	Arg	Lys	Asp	Val	Lys	Glu	His	Leu	Ser	Ala	Tyr	
145					150					155					160	
Cys	Arg	Phe	Arg	Glu	Glu	Lys	Cys	Leu	Tyr	Cys	Lys	Arg	Asp	Ile	Val	
				165					170					175		
Val	Thr	Asn	Leu	Gln	Asp	His	Glu	Glu	Asn	Ser	Cys	Pro	Ala	Tyr	Pro	
		180						185					190			
Val	Ser	Cys	Pro	Asn	Arg	Cys	Val	Gln	Thr	Ile	Pro	Arg	Ala	Arg	Val	
		195					200					205				
Asn	Glu	His	Leu	Thr	Val	Cys	Pro	Glu	Ala	Glu	Gln	Asp	Cys	Pro	Phe	
	210					215					220					
Lys	His	Tyr	Gly	Cys	Thr	Val	Lys	Gly	Lys	Arg	Gly	Asn	Leu	Leu	Glu	
225					230					235					240	
His	Glu	Arg	Ala	Ala	Leu	Gln	Asp	His	Met	Leu	Leu	Val	Leu	Glu	Lys	
				245					250					255		
Asn	Tyr	Gln	Leu	Glu	Gln	Arg	Ile	Ser	Asp	Leu	Tyr	Gln	Ser	Leu	Glu	
			260					265					270			
Gln	Lys	Glu	Ser	Lys	Ile	Gln	Gln	Leu	Ala	Glu	Thr	Val	Lys	Lys	Phe	
		275					280					285				
Glu	Lys	Glu	Leu	Lys	Gln	Phe	Thr	Gln	Met	Phe	Gly	Arg	Asn	Gly	Thr	
		290				295					300					
Phe	Leu	Ser	Asn	Val	Gln	Ala	Leu	Thr	Ser	His	Thr	Asp	Lys	Ser	Ala	
305					310					315					320	
Trp	Leu	Glu	Ala	Gln	Val	Arg	Gln	Leu	Leu	Gln	Ile	Val	Asn	Gln	Gln	
				325					330					335		
Pro	Ser	Arg	Leu	Asp	Leu	Arg	Ser	Leu	Val	Asp	Ala	Val	Asp	Ser	Val	
			340					345					350			
Lys	Gln	Arg	Ile	Thr	Gln	Leu	Glu	Ala	Ser	Asp	Gln	Arg	Leu	Val	Leu	
		355					360					365				



Leu Glu Gly Glu Thr Ser Lys His Asp Ala His Ile Asn Ile His Lys  
 370 375 380  
 Ala Gln Leu Asn Lys Asn Glu Glu Arg Phe Lys Gln Leu Glu Gly Ala  
 385 390 395 400  
 Cys Tyr Ser Gly Lys Leu Ile Trp Lys Val Thr Asp Tyr Arg Val Lys  
 405 410 415  
 Lys Arg Glu Ala Val Glu Gly His Thr Val Ser Val Phe Ser Gln Pro  
 420 425 430  
 Phe Tyr Thr Ser Arg Cys Gly Tyr Arg Leu Cys Ala Arg Ala Tyr Leu  
 435 440 445  
 Asn Gly Asp Gly Ser Gly Lys Gly Thr His Leu Ser Leu Tyr Phe Val  
 450 455 460  
 Val Met Arg Gly Glu Phe Asp Ser Leu Leu Gln Trp Pro Phe Arg Gln  
 465 470 475 480  
 Arg Val Thr Leu Met Leu Leu Asp Gln Ser Gly Lys Lys Asn His Ile  
 485 490 495  
 Val Glu Thr Phe Lys Ala Asp Pro Asn Ser Ser Ser Phe Lys Arg Pro  
 500 505 510  
 Asp Gly Glu Met Asn Ile Ala Ser Gly Cys Pro Arg Phe Val Ser His  
 515 520 525  
 Ser Thr Leu Glu Asn Ser Lys Asn Thr Tyr Ile Lys Asp Asp Thr Leu  
 530 535 540  
 Phe Leu Lys Val Ala Val Asp Leu Thr Asp Leu Glu Asp Leu  
 545 550 555

<210> 33  
 <211> 558  
 <212> PRT  
 <213> Mus musculus

<400> 33  
 Met Ala His Ser Glu Glu Gln Ala Ala Val Pro Cys Ala Phe Ile Arg  
 1 5 10 15  
 Gln Asn Ser Gly Asn Ser Ile Ser Leu Asp Phe Glu Pro Asp Thr Glu  
 20 25 30  
 Tyr Gln Phe Val Glu Gln Leu Glu Glu Arg Tyr Lys Cys Ala Phe Cys  
 35 40 45  
 His Ser Val Leu His Asn Pro His Gln Thr Gly Cys Gly His Arg Phe  
 50 55 60  
 Cys Gln Gln Cys Ile Arg Ser Leu Arg Glu Leu Asn Ser Val Pro Ile  
 65 70 75 80

Cys	Pro	Val	Asp	Lys	Glu	Val	Ile	Lys	Pro	Gln	Glu	Val	Phe	Lys	Asp		
				85					90					95			
Asn	Cys	Cys	Lys	Arg	Glu	Val	Leu	Asn	Leu	His	Val	Tyr	Cys	Lys	Asn		
			100					105					110				
Ala	Pro	Gly	Cys	Asn	Ala	Arg	Ile	Ile	Leu	Gly	Arg	Phe	Gln	Asp	His		
		115					120					125					
Leu	Gln	His	Cys	Ser	Phe	Gln	Ala	Val	Pro	Cys	Pro	Asn	Glu	Ser	Cys		
	130					135					140						
Arg	Glu	Ala	Met	Leu	Arg	Lys	Asp	Val	Lys	Glu	His	Leu	Ser	Ala	Tyr		
145					150					155					160		
Cys	Arg	Phe	Arg	Glu	Glu	Lys	Cys	Leu	Tyr	Cys	Lys	Arg	Asp	Ile	Val		
			165						170					175			
Val	Thr	Asn	Leu	Gln	Asp	His	Glu	Glu	Asn	Ser	Cys	Pro	Ala	Tyr	Pro		
		180						185					190				
Val	Ser	Cys	Pro	Asn	Arg	Cys	Val	Gln	Thr	Ile	Pro	Arg	Ala	Arg	Val		
	195						200					205					
Asn	Glu	His	Leu	Thr	Val	Cys	Pro	Glu	Ala	Glu	Gln	Asp	Cys	Pro	Phe		
	210					215					220						
Lys	His	Tyr	Gly	Cys	Thr	Val	Lys	Gly	Lys	Arg	Gly	Asn	Leu	Leu	Glu		
225					230					235					240		
His	Glu	Arg	Ala	Ala	Leu	Gln	Asp	His	Met	Leu	Leu	Val	Leu	Glu	Lys		
			245						250					255			
Asn	Tyr	Gln	Leu	Glu	Gln	Arg	Ile	Ser	Asp	Leu	Tyr	Gln	Ser	Leu	Glu		
		260						265					270				
Gln	Lys	Glu	Ser	Lys	Ile	Gln	Gln	Leu	Ala	Glu	Thr	Val	Lys	Lys	Phe		
	275					280						285					
Glu	Lys	Glu	Leu	Lys	Gln	Phe	Thr	Gln	Met	Phe	Gly	Arg	Asn	Gly	Thr		
	290				295					300							
Phe	Leu	Ser	Asn	Val	Gln	Ala	Leu	Thr	Ser	His	Thr	Asp	Lys	Ser	Ala		
305					310					315					320		
Trp	Leu	Glu	Ala	Gln	Val	Arg	His	Leu	Leu	Gln	Ile	Val	Asn	Gln	Gln		
			325						330					335			
Pro	Ser	Arg	Leu	Asp	Leu	Arg	Ser	Leu	Val	Asp	Ala	Val	Asp	Ser	Val		
			340					345					350				
Lys	Gln	Arg	Ile	Thr	Gln	Leu	Glu	Ala	Ser	Asp	Gln	Arg	Leu	Val	Leu		
	355					360					365						
Leu	Glu	Gly	Glu	Thr	Ser	Lys	His	Asp	Ala	His	Ile	Asn	Ile	His	Lys		
	370					375					380						

Ala Gln Leu Asn Lys Asn Glu Glu Arg Phe Lys Gln Leu Glu Gly Ala  
 385 390 395 400  
 Cys Tyr Ser Gly Lys Leu Ile Trp Lys Val Thr Asp Tyr Arg Val Lys  
 405 410 415  
 Lys Arg Glu Ala Val Glu Gly His Thr Val Ser Val Phe Ser Gln Pro  
 420 425 430  
 Phe Tyr Thr Ser Arg Cys Gly Tyr Arg Leu Cys Ala Arg Ala Tyr Leu  
 435 440 445  
 Asn Gly Asp Gly Ser Gly Lys Gly Thr His Leu Ser Leu Tyr Phe Val  
 450 455 460  
 Val Met Arg Gly Glu Phe Asp Ser Leu Leu Gln Trp Pro Phe Arg Gln  
 465 470 475 480  
 Arg Val Thr Leu Met Leu Leu Asp Gln Ser Gly Lys Lys Asn His Ile  
 485 490 495  
 Val Glu Thr Phe Lys Ala Asp Pro Asn Ser Ser Ser Phe Lys Arg Pro  
 500 505 510  
 Asp Gly Glu Met Asn Ile Ala Ser Gly Cys Pro Arg Phe Val Ser His  
 515 520 525  
 Ser Thr Leu Glu Asn Ser Lys Asn Thr Tyr Ile Lys Asp Asp Thr Leu  
 530 535 540  
 Phe Leu Lys Val Ala Val Asp Leu Thr Asp Leu Glu Asp Leu  
 545 550 555

<210> 34  
 <211> 557  
 <212> PRT  
 <213> Homo sapiens

<400> 34  
 Met Ala Tyr Ser Glu Glu His Lys Gly Met Pro Cys Gly Phe Ile Arg  
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 Gln Asn Ser Gly Asn Ser Ile Ser Leu Asp Phe Glu Pro Ser Ile Glu  
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 Tyr Gln Phe Val Glu Arg Leu Glu Glu Arg Tyr Lys Cys Ala Phe Cys  
 35 40 45  
 His Ser Val Leu His Asn Pro His Gln Thr Gly Cys Gly His Arg Phe  
 50 55 60  
 Cys Gln His Cys Ile Leu Ser Leu Arg Glu Leu Asn Thr Val Pro Ile  
 65 70 75 80  
 Cys Pro Val Asp Lys Glu Val Ile Lys Ser Gln Glu Val Phe Lys Asp

85					90					95					
Asn	Cys	Cys	Lys	Arg	Glu	Val	Leu	Asn	Leu	Tyr	Val	Tyr	Cys	Ser	Asn
			100					105					110		
Ala	Pro	Gly	Cys	Asn	Ala	Lys	Val	Ile	Leu	Gly	Arg	Tyr	Gln	Asp	His
		115					120					125			
Leu	Gln	Gln	Cys	Leu	Phe	Gln	Pro	Val	Gln	Cys	Ser	Asn	Glu	Lys	Cys
	130					135					140				
Arg	Glu	Pro	Val	Leu	Arg	Lys	Asp	Leu	Lys	Glu	His	Leu	Ser	Ala	Ser
145						150					155				160
Cys	Gln	Phe	Arg	Lys	Glu	Lys	Cys	Leu	Tyr	Cys	Lys	Lys	Asp	Val	Val
				165					170					175	
Val	Ile	Asn	Leu	Gln	Asn	His	Glu	Glu	Asn	Leu	Cys	Pro	Glu	Tyr	Pro
			180					185					190		
Val	Phe	Cys	Pro	Asn	Asn	Cys	Ala	Lys	Ile	Ile	Leu	Lys	Thr	Glu	Val
		195					200					205			
Asp	Glu	His	Leu	Ala	Val	Cys	Pro	Glu	Ala	Glu	Gln	Asp	Cys	Pro	Phe
	210					215					220				
Lys	His	Tyr	Gly	Cys	Ala	Val	Thr	Asp	Lys	Arg	Arg	Asn	Leu	Gln	Gln
225						230					235				240
His	Glu	His	Ser	Ala	Leu	Arg	Glu	His	Met	Arg	Leu	Val	Leu	Glu	Lys
				245					250					255	
Asn	Val	Gln	Leu	Glu	Glu	Gln	Ile	Ser	Asp	Leu	His	Lys	Ser	Leu	Glu
			260					265					270		
Gln	Lys	Glu	Ser	Lys	Ile	Gln	Gln	Leu	Ala	Glu	Thr	Ile	Lys	Lys	Leu
		275					280					285			
Glu	Lys	Glu	Phe	Lys	Gln	Phe	Ala	Gln	Leu	Phe	Gly	Lys	Asn	Gly	Ser
	290					295					300				
Phe	Leu	Pro	Asn	Ile	Gln	Val	Phe	Ala	Ser	His	Ile	Asp	Lys	Ser	Ala
305						310					315				320
Trp	Leu	Glu	Ala	Gln	Val	His	Gln	Leu	Leu	Gln	Met	Val	Asn	Gln	Gln
				325					330					335	
Gln	Asn	Lys	Phe	Asp	Leu	Arg	Pro	Leu	Met	Glu	Ala	Val	Asp	Thr	Val
			340					345					350		
Lys	Gln	Lys	Ile	Thr	Leu	Leu	Glu	Asn	Asn	Asp	Gln	Arg	Leu	Ala	Val
		355					360					365			
Leu	Glu	Glu	Glu	Thr	Asn	Lys	His	Asp	Thr	His	Ile	Asn	Ile	His	Lys
	370					375					380				
Ala	Gln	Leu	Ser	Lys	Asn	Glu	Glu	Arg	Phe	Lys	Leu	Leu	Glu	Gly	Thr

385		390		395		400
Cys Tyr Asn Gly Lys Leu Ile Trp Lys Val Thr Asp Tyr Lys Met Lys						
	405			410		415
Lys Arg Glu Ala Val Asp Gly His Thr Val Ser Ile Phe Ser Gln Ser						
	420		425			430
Phe Tyr Thr Ser Arg Cys Gly Tyr Arg Leu Cys Ala Arg Ala Tyr Leu						
	435		440			445
Asn Gly Asp Gly Ser Gly Arg Gly Ser His Leu Ser Leu Tyr Phe Val						
	450		455			460
Val Met Arg Gly Glu Phe Asp Ser Leu Leu Gln Trp Pro Phe Arg Gln						
	465		470		475	480
Arg Val Thr Leu Met Leu Leu Asp Gln Ser Gly Lys Lys Asn Ile Met						
	485		490			495
Glu Thr Phe Lys Pro Asp Pro Asn Ser Ser Ser Phe Lys Arg Pro Asp						
	500		505			510
Gly Glu Met Asn Ile Ala Ser Gly Cys Pro Arg Phe Val Ala His Ser						
	515		520			525
Val Leu Glu Asn Ala Lys Asn Ala Tyr Ile Lys Asp Asp Thr Leu Phe						
	530		535			540
Leu Lys Val Ala Val Asp Leu Thr Asp Leu Glu Asp Leu						
	545		550			555

<210> 35  
 <211> 543  
 <212> PRT  
 <213> Homo sapiens

<400> 35															
Met	Glu	Ser	Ser	Lys	Lys	Met	Asp	Ser	Pro	Gly	Ala	Leu	Gln	Thr	Asn
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Pro	Pro	Leu	Lys	Leu	His	Thr	Asp	Arg	Ser	Ala	Gly	Thr	Pro	Val	Phe
			20					25					30		
Val	Pro	Glu	Gln	Gly	Gly	Tyr	Lys	Glu	Lys	Phe	Val	Lys	Thr	Val	Glu
		35					40					45			
Asp	Lys	Tyr	Lys	Cys	Glu	Lys	Cys	His	Leu	Val	Leu	Cys	Ser	Pro	Lys
	50					55					60				
Gln	Thr	Glu	Cys	Gly	His	Arg	Phe	Cys	Glu	Ser	Cys	Met	Ala	Ala	Leu
65					70					75					80
Leu	Ser	Ser	Ser	Ser	Pro	Lys	Cys	Thr	Ala	Cys	Gln	Glu	Ser	Ile	Val
					85				90					95	

Lys Asp Lys Val Phe Lys Asp Asn Cys Cys Lys Arg Glu Ile Leu Ala  
 100 105 110  
 Leu Gln Ile Tyr Cys Arg Asn Glu Ser Arg Gly Cys Ala Glu Gln Leu  
 115 120 125  
 Thr Leu Gly His Leu Leu Val His Leu Lys Asn Asp Cys His Phe Glu  
 130 135 140  
 Glu Leu Pro Cys Val Arg Pro Asp Cys Lys Glu Lys Val Leu Arg Lys  
 145 150 155 160  
 Asp Leu Arg Asp His Val Glu Lys Ala Cys Lys Tyr Arg Glu Ala Thr  
 165 170 175  
 Cys Ser His Cys Lys Ser Gln Val Pro Met Ile Ala Leu Gln Lys His  
 180 185 190  
 Glu Asp Thr Asp Cys Pro Cys Val Val Val Ser Cys Pro His Lys Cys  
 195 200 205  
 Ser Val Gln Thr Leu Leu Arg Ser Glu Gly Thr Asn Gln Gln Ile Lys  
 210 215 220  
 Ala His Glu Ala Ser Ser Ala Val Gln His Val Asn Leu Leu Lys Glu  
 225 230 235 240  
 Trp Ser Asn Ser Leu Glu Lys Lys Val Ser Leu Leu Gln Asn Glu Ser  
 245 250 255  
 Val Glu Lys Asn Lys Ser Ile Gln Ser Leu His Asn Gln Ile Cys Ser  
 260 265 270  
 Phe Glu Ile Glu Ile Glu Arg Gln Lys Glu Met Leu Arg Asn Asn Glu  
 275 280 285  
 Ser Lys Ile Leu His Leu Gln Arg Val Ile Asp Ser Gln Ala Glu Lys  
 290 295 300  
 Leu Lys Glu Leu Asp Lys Glu Ile Arg Ser Phe Arg Gln Asn Trp Glu  
 305 310 315 320  
 Glu Ala Asp Ser Met Lys Ser Ser Val Glu Ser Leu Gln Asn Arg Val  
 325 330 335  
 Thr Glu Leu Glu Ser Val Asp Lys Ser Ala Gly Gln Val Ala Arg Asn  
 340 345 350  
 Thr Gly Leu Leu Glu Ser Gln Leu Ser Arg His Asp Gln Met Leu Ser  
 355 360 365  
 Val His Asp Ile Arg Leu Ala Asp Met Asp Leu Arg Phe Gln Val Leu  
 370 375 380  
 Glu Thr Ala Ser Tyr Asn Gly Val Leu Ile Trp Lys Ile Arg Asp Tyr  
 385 390 395 400

Lys Arg Arg Lys Gln Glu Ala Val Met Gly Lys Thr Leu Ser Leu Tyr  
 405 410 415  
 Ser Gln Pro Phe Tyr Thr Gly Tyr Phe Gly Tyr Lys Met Cys Ala Arg  
 420 425 430  
 Val Tyr Leu Asn Gly Asp Gly Met Gly Lys Gly Thr His Leu Ser Leu  
 435 440 445  
 Phe Phe Val Ile Met Arg Gly Glu Tyr Asp Ala Leu Leu Pro Trp Pro  
 450 455 460  
 Phe Lys Gln Lys Val Thr Leu Met Leu Met Asp Gln Gly Ser Ser Arg  
 465 470 475 480  
 Arg His Leu Gly Asp Ala Phe Lys Pro Asp Pro Asn Ser Ser Ser Phe  
 485 490 495  
 Lys Lys Pro Thr Gly Glu Met Asn Ile Ala Ser Gly Cys Pro Val Phe  
 500 505 510  
 Val Ala Gln Thr Val Leu Glu Asn Gly Thr Tyr Ile Lys Asp Asp Thr  
 515 520 525  
 Ile Phe Ile Lys Val Ile Val Asp Thr Ser Asp Leu Pro Asp Pro  
 530 535 540

<210> 36  
 <211> 568  
 <212> PRT  
 <213> Homo sapiens

<400> 36  
 Met Glu Ser Ser Lys Lys Met Asp Ser Pro Gly Ala Leu Gln Thr Asn  
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 Pro Pro Leu Lys Leu His Thr Asp Arg Ser Ala Gly Thr Pro Val Phe  
 20 25 30  
 Val Pro Glu Gln Gly Gly Tyr Lys Glu Lys Phe Val Lys Thr Val Glu  
 35 40 45  
 Asp Lys Tyr Lys Cys Glu Lys Cys His Leu Val Leu Cys Ser Pro Lys  
 50 55 60  
 Gln Thr Glu Cys Gly His Arg Phe Cys Glu Ser Cys Met Ala Ala Leu  
 65 70 75 80  
 Leu Ser Ser Ser Ser Pro Lys Cys Thr Ala Cys Gln Glu Ser Ile Val  
 85 90 95  
 Lys Asp Lys Val Phe Lys Asp Asn Cys Cys Lys Arg Glu Ile Leu Ala  
 100 105 110  
 Leu Gln Ile Tyr Cys Arg Asn Glu Ser Arg Gly Cys Ala Glu Gln Leu  
 115 120 125

Thr Leu Gly His Leu Leu Val His Leu Lys Asn Asp Cys His Phe Glu  
 130 135 140  
 Glu Leu Pro Cys Val Arg Pro Asp Cys Lys Glu Lys Val Leu Arg Lys  
 145 150 155 160  
 Asp Leu Arg Asp His Val Glu Lys Ala Cys Lys Tyr Arg Glu Ala Thr  
 165 170 175  
 Cys Ser His Cys Lys Ser Gln Val Pro Met Ile Ala Leu Gln Lys His  
 180 185 190  
 Glu Asp Thr Asp Cys Pro Cys Val Val Val Ser Cys Pro His Lys Cys  
 195 200 205  
 Ser Val Gln Thr Leu Leu Arg Ser Glu Leu Ser Ala His Leu Ser Glu  
 210 215 220  
 Cys Val Asn Ala Pro Ser Thr Cys Ser Phe Lys Arg Tyr Gly Cys Val  
 225 230 235 240  
 Phe Gln Gly Thr Asn Gln Gln Ile Lys Ala His Glu Ala Ser Ser Ala  
 245 250 255  
 Val Gln His Val Asn Leu Leu Lys Glu Trp Ser Asn Ser Leu Glu Lys  
 260 265 270  
 Lys Val Ser Leu Leu Gln Asn Glu Ser Val Glu Lys Asn Lys Ser Ile  
 275 280 285  
 Gln Ser Leu His Asn Gln Ile Cys Ser Phe Glu Ile Glu Ile Glu Arg  
 290 295 300  
 Gln Lys Glu Met Leu Arg Asn Asn Glu Ser Lys Ile Leu His Leu Gln  
 305 310 315 320  
 Arg Val Ile Asp Ser Gln Ala Glu Lys Leu Lys Glu Leu Asp Lys Glu  
 325 330 335  
 Ile Arg Pro Phe Arg Gln Asn Trp Glu Glu Ala Asp Ser Met Lys Ser  
 340 345 350  
 Ser Val Glu Ser Leu Gln Asn Arg Val Thr Glu Leu Glu Ser Val Asp  
 355 360 365  
 Lys Ser Ala Gly Gln Val Ala Arg Asn Thr Gly Leu Leu Glu Ser Gln  
 370 375 380  
 Leu Ser Arg His Asp Gln Met Leu Ser Val His Asp Ile Arg Leu Ala  
 385 390 395 400  
 Asp Met Asp Leu Arg Phe Gln Val Leu Glu Thr Ala Ser Tyr Asn Gly  
 405 410 415  
 Val Leu Ile Trp Lys Ile Arg Asp Tyr Lys Arg Arg Lys Gln Glu Ala  
 420 425 430



Val Met Gly Lys Thr Leu Ser Leu Tyr Ser Gln Pro Phe Tyr Thr Gly  
 435 440 445  
 Tyr Phe Gly Tyr Lys Met Cys Ala Arg Val Tyr Leu Asn Gly Asp Gly  
 450 455 460  
 Met Gly Lys Gly Thr His Leu Ser Leu Phe Phe Val Ile Met Arg Gly  
 465 470 475 480  
 Glu Tyr Asp Ala Leu Leu Pro Trp Pro Phe Lys Gln Lys Val Thr Leu  
 485 490 495  
 Met Leu Met Asp Gln Gly Ser Ser Arg Arg His Leu Gly Asp Ala Phe  
 500 505 510  
 Lys Pro Asp Pro Asn Ser Ser Ser Phe Lys Lys Pro Thr Gly Glu Met  
 515 520 525  
 Asn Ile Ala Ser Gly Cys Pro Val Phe Val Ala Gln Thr Val Leu Glu  
 530 535 540  
 Asn Gly Thr Tyr Ile Lys Asp Asp Thr Ile Phe Ile Lys Val Ile Val  
 545 550 555 560  
 Asp Thr Ser Asp Leu Pro Asp Pro  
 565

<210> 37

<211> 159

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: MATH domain  
sequence

<400> 37

Thr Ile Lys Asn Phe Ser Lys Ile Lys Glu Glu Ala Lys Glu Gly Arg  
 1 5 10 15

Glu Gly Glu Glu Tyr Tyr Thr Ser Pro Val Glu Glu Arg Phe Asn Ile  
 20 25 30

Pro Trp Arg Leu Asn Val Leu Arg Ile Tyr Arg Asn Gly Gly Gly Glu  
 35 40 45

Gly Arg Ser Gly Lys Phe Leu Gly Leu Tyr Leu His Cys Leu Lys Glu  
 50 55 60

Glu Lys Asp Ser Pro Thr Ile Glu Asn Leu Lys Trp Ser Ile Glu Thr  
 65 70 75 80

Glu Phe Thr Leu Lys Leu Val Ser Asp Asn Gly Lys Ser Ile Arg Arg  
 85 90 95

Met Ser Ser Thr Thr Leu Thr Lys Lys Thr Lys Asp Ala Lys Asn Asn  
100 105 110

Ser His Val Phe Glu Lys Pro Thr Gly Glu Gly Trp Gly Lys Ser Gly  
115 120 125

Phe Lys Lys Phe Ile Ser Trp Asp Asp Leu Glu Asp Asp Tyr Asn Gly  
130 135 140

Tyr Leu Val Asp Asp Ser Ile Ile Ile Glu Ala Glu Val Lys Ile  
145 150 155

<210> 38  
<211> 143  
<212> PRT  
<213> Homo sapiens

<400> 38  
Lys Val Thr Asp Tyr Lys Met Lys Lys Arg Glu Ala Val Asp Gly His  
1 5 10 15

Thr Val Ser Ile Phe Ser Gln Ser Phe Tyr Thr Ser Arg Cys Gly Tyr  
20 25 30

Arg Leu Cys Ala Arg Ala Tyr Leu Asn Gly Asp Gly Ser Gly Arg Gly  
35 40 45

Ser His Leu Ser Leu Tyr Phe Val Val Met Arg Gly Glu Phe Asp Ser  
50 55 60

Leu Leu Gln Trp Pro Phe Arg Gln Arg Val Thr Leu Met Leu Leu Asp  
65 70 75 80

Gln Ser Gly Lys Lys Asn Ile Met Glu Thr Phe Lys Pro Asp Pro Asn  
85 90 95

Ser Ser Ser Phe Lys Arg Pro Asp Gly Glu Met Asn Ile Ala Ser Gly  
100 105 110

Cys Pro Arg Phe Val Ala His Ser Val Leu Glu Asn Ala Lys Asn Ala  
115 120 125

Tyr Ile Lys Asp Asp Thr Leu Phe Leu Lys Val Ala Val Asp Leu  
130 135 140

<210> 39  
<211> 700  
<212> PRT  
<213> Homo sapiens

<400> 39  
Leu Thr Asp Asn Phe Ile Ala Ala Val Arg Arg Arg Asp Phe Ala Asn  
1 5 10 15

Met Thr Ser Leu Val His Leu Thr Leu Ser Arg Asn Thr Ile Gly Gln

20					25					30					
Val	Ala	Ala	Gly	Ala	Phe	Ala	Asp	Leu	Arg	Ala	Leu	Arg	Ala	Leu	His
		35					40					45			
Leu	Asp	Ser	Asn	Arg	Leu	Ala	Glu	Val	Arg	Gly	Asp	Gln	Leu	Arg	Gly
	50					55					60				
Leu	Gly	Asn	Leu	Arg	His	Leu	Ile	Leu	Gly	Asn	Asn	Gln	Ile	Arg	Arg
	65					70					75				80
Val	Glu	Ser	Ala	Ala	Phe	Asp	Ala	Phe	Leu	Ser	Thr	Val	Glu	Asp	Leu
				85					90					95	
Asp	Leu	Ser	Tyr	Asn	Asn	Leu	Glu	Ala	Leu	Pro	Trp	Glu	Ala	Val	Gly
			100					105						110	
Gln	Met	Val	Asn	Leu	Asn	Thr	Leu	Thr	Leu	Asp	His	Asn	Leu	Ile	Asp
	115						120					125			
His	Ile	Ala	Glu	Gly	Thr	Phe	Val	Gln	Leu	His	Lys	Leu	Val	Arg	Leu
	130					135					140				
Asp	Met	Thr	Ser	Asn	Arg	Leu	His	Lys	Leu	Pro	Pro	Asp	Gly	Leu	Phe
	145					150					155				160
Leu	Arg	Ser	Gln	Gly	Thr	Gly	Pro	Lys	Pro	Pro	Thr	Pro	Leu	Thr	Val
			165						170					175	
Ser	Phe	Gly	Gly	Asn	Pro	Leu	His	Cys	Asn	Cys	Glu	Leu	Leu	Trp	Leu
			180					185					190		
Arg	Arg	Leu	Thr	Arg	Glu	Asp	Asp	Leu	Glu	Thr	Cys	Ala	Thr	Pro	Glu
		195					200					205			
His	Leu	Thr	Asp	Arg	Tyr	Phe	Trp	Ser	Ile	Pro	Glu	Glu	Glu	Phe	Leu
	210					215					220				
Cys	Glu	Pro	Pro	Leu	Ile	Thr	Arg	Gln	Ala	Gly	Gly	Arg	Ala	Leu	Val
	225					230					235				240
Val	Glu	Gly	Gln	Ala	Val	Ser	Leu	Arg	Cys	Arg	Ala	Val	Gly	Asp	Pro
				245					250					255	
Glu	Pro	Val	Val	His	Trp	Val	Ala	Pro	Asp	Gly	Arg	Leu	Leu	Gly	Asn
			260					265					270		
Ser	Ser	Arg	Thr	Arg	Val	Arg	Gly	Asp	Gly	Thr	Leu	Asp	Val	Thr	Ile
		275					280					285			
Thr	Thr	Leu	Arg	Asp	Ser	Gly	Thr	Phe	Thr	Cys	Ile	Ala	Ser	Asn	Ala
		290				295					300				
Ala	Gly	Glu	Ala	Thr	Ala	Pro	Val	Glu	Val	Cys	Val	Val	Pro	Leu	Pro
	305					310					315				320
Leu	Met	Ala	Pro	Pro	Pro	Ala	Ala	Pro	Pro	Pro	Leu	Thr	Glu	Pro	Gly

325										330					335				
Ser	Ser	Asp	Ile	Ala	Thr	Pro	Gly	Arg	Pro	Gly	Ala	Asn	Asp	Ser	Ala				
			340					345					350						
Ala	Glu	Arg	Arg	Leu	Val	Ala	Ala	Glu	Leu	Thr	Ser	Asn	Ser	Val	Leu				
		355					360					365							
Ile	Arg	Trp	Pro	Ala	Gln	Arg	Pro	Val	Pro	Gly	Ile	Arg	Met	Tyr	Gln				
	370					375					380								
Val	Gln	Tyr	Asn	Ser	Ser	Val	Asp	Asp	Ser	Leu	Val	Tyr	Arg	Met	Ile				
385					390					395					400				
Pro	Ser	Thr	Ser	Gln	Thr	Phe	Leu	Val	Asn	Asp	Leu	Ala	Ala	Gly	Arg				
				405					410					415					
Ala	Tyr	Asp	Leu	Cys	Val	Leu	Ala	Val	Tyr	Asp	Asp	Gly	Ala	Thr	Ala				
			420					425					430						
Leu	Pro	Ala	Thr	Arg	Val	Val	Gly	Cys	Val	Gln	Phe	Thr	Thr	Ala	Gly				
		435					440					445							
Asp	Pro	Ala	Pro	Cys	Arg	Pro	Leu	Arg	Ala	His	Phe	Leu	Gly	Gly	Thr				
		450				455					460								
Met	Ile	Ile	Ala	Ile	Gly	Gly	Val	Ile	Val	Ala	Ser	Val	Leu	Val	Phe				
465					470					475					480				
Ile	Val	Leu	Leu	Met	Ile	Arg	Tyr	Lys	Val	Tyr	Gly	Asp	Gly	Asp	Ser				
				485					490					495					
Arg	Arg	Val	Lys	Gly	Ser	Arg	Ser	Leu	Pro	Arg	Val	Ser	His	Val	Cys				
			500					505					510						
Ser	Gln	Thr	Asn	Gly	Ala	Gly	Thr	Gly	Ala	Ala	Gln	Ala	Pro	Ala	Leu				
		515					520					525							
Pro	Ala	Gln	Asp	His	Tyr	Glu	Ala	Leu	Arg	Glu	Val	Glu	Ser	Gln	Ala				
		530				535					540								
Ala	Pro	Ala	Val	Ala	Val	Glu	Ala	Lys	Ala	Met	Glu	Ala	Glu	Thr	Ala				
545					550					555					560				
Ser	Ala	Glu	Pro	Glu	Val	Val	Leu	Gly	Arg	Ser	Leu	Gly	Gly	Ser	Ala				
				565					570					575					
Thr	Ser	Leu	Cys	Leu	Leu	Pro	Ser	Glu	Glu	Thr	Ser	Gly	Glu	Glu	Ser				
			580					585					590						
Arg	Ala	Ala	Val	Gly	Pro	Arg	Arg	Ser	Arg	Ser	Gly	Ala	Leu	Glu	Pro				
			595				600					605							
Pro	Thr	Ser	Ala	Pro	Pro	Thr	Leu	Ala	Leu	Val	Pro	Gly	Gly	Ala	Ala				
			610			615					620								
Ala	Arg	Pro	Arg	Pro	Gln	Gln	Arg	Tyr	Ser	Phe	Asp	Gly	Asp	Tyr	Gly				

625		630		635		640
Ala Leu Phe Gln Ser His Ser Tyr Pro Arg Arg Ala Arg Arg Thr Lys						
	645			650		655
Arg His Arg Ser Thr Pro His Leu Asp Gly Ala Gly Gly Gly Ala Ala						
	660		665			670
Gly Glu Asp Gly Asp Leu Gly Leu Gly Ser Ala Arg Ala Cys Leu Ala						
	675		680			685
Phe Thr Ser Thr Glu Trp Met Leu Glu Ser Thr Val						
	690		695			700

<210> 40  
 <211> 492  
 <212> PRT  
 <213> Mus musculus

<400> 40

Met Ala Pro Gly Pro Phe Ser Ser Arg Leu Phe Ser Pro Pro Pro Ala															
1				5				10							15
Ala Leu Pro Phe Leu Leu Leu Leu Trp Ala Gly Ala Ser Arg Ser Gln															
			20				25						30		
Pro Cys Pro Gly Arg Cys Ile Cys Gln Asn Val Ala Pro Thr Leu Thr															
		35				40						45			
Met Leu Cys Ala Lys Thr Gly Leu Leu Phe Val Pro Pro Ala Ile Asp															
	50					55				60					
Arg Arg Val Val Glu Leu Arg Leu Thr Asp Asn Phe Ile Ala Ala Val															
	65				70				75						80
Arg Arg Arg Asp Phe Ala Asn Met Thr Ser Leu Val His Leu Thr Leu															
			85					90						95	
Ser Arg Asn Thr Ile Gly Gln Val Ala Ala Gly Ala Phe Ala Asp Leu															
		100					105						110		
Arg Ala Leu Arg Ala Leu His Leu Asp Ser Asn Arg Leu Ala Glu Val															
	115					120						125			
Arg Gly Asp Gln Leu Arg Gly Leu Gly Asn Leu Arg His Leu Ile Leu															
	130					135				140					
Gly Asn Asn Gln Ile Arg Lys Val Glu Ser Ala Ala Phe Asp Ala Phe															
	145				150				155						160
Leu Ser Thr Val Glu Asp Leu Asp Leu Ser Tyr Asn Asn Leu Glu Ala															
		165						170						175	
Leu Pro Trp Glu Ala Val Gly Gln Met Val Asn Leu Asn Thr Leu Thr															
	180					185							190		

Leu Asp His Asn Leu Ile Asp His Ile Ala Glu Gly Thr Phe Val Gln  
 195 200 205  
 Leu His Lys Leu Val Arg Leu Asp Met Thr Ser Asn Arg Leu His Lys  
 210 215 220  
 Leu Pro Pro Asp Gly Leu Phe Leu Arg Ser Gln Gly Gly Gly Pro Lys  
 225 230 235 240  
 Pro Pro Thr Pro Leu Thr Val Ser Phe Gly Gly Asn Pro Leu His Cys  
 245 250 255  
 Asn Cys Glu Leu Leu Trp Leu Arg Arg Leu Thr Arg Glu Asp Asp Leu  
 260 265 270  
 Glu Thr Cys Ala Thr Pro Glu His Leu Thr Asp Arg Tyr Phe Trp Ser  
 275 280 285  
 Ile Pro Glu Glu Glu Phe Leu Cys Glu Pro Pro Leu Ile Thr Arg Gln  
 290 295 300  
 Ala Gly Gly Arg Ala Leu Val Val Glu Gly Gln Ala Val Ser Leu Arg  
 305 310 315 320  
 Cys Arg Ala Val Gly Asp Pro Glu Pro Val Val His Trp Val Ala Pro  
 325 330 335  
 Asp Gly Arg Leu Leu Gly Asn Ser Ser Arg Thr Arg Val Arg Gly Asp  
 340 345 350  
 Gly Thr Leu Asp Val Thr Ile Thr Thr Leu Arg Asp Ser Gly Thr Phe  
 355 360 365  
 Thr Cys Ile Ala Ser Asn Ala Ala Gly Glu Ala Thr Ala Pro Val Glu  
 370 375 380  
 Val Cys Val Val Pro Leu Pro Leu Met Ala Pro Pro Pro Ala Ala Pro  
 385 390 395 400  
 Pro Pro Leu Thr Glu Pro Gly Ser Ser Asp Ile Ala Thr Pro Gly Arg  
 405 410 415  
 Pro Gly Ala Asn Asp Ser Ala Thr Glu Arg Arg Leu Val Ala Ala Glu  
 420 425 430  
 Leu Thr Ser Ser Ser Val Leu Ile Arg Trp Pro Ala Gln Arg Pro Val  
 435 440 445  
 Pro Gly Ile Arg Met Tyr Gln Val Gln Tyr Asn Ser Ser Ala Asp Asp  
 450 455 460  
 Ser Leu Val Tyr Ser Ser Ser Cys Pro Gly Thr His Tyr Val Asp Gln  
 465 470 475 480  
 Asp Gly Leu Glu Ile Arg Val Pro Leu Ala Ser Ala  
 485 490

<210> 41  
 <211> 832  
 <212> PRT  
 <213> Homo sapiens

<400> 41

Leu	Glu	Ser	Val	Ser	Gly	Gly	Glu	Gly	Cys	Val	Ala	Glu	Pro	Gly	Ser	1	5	10	15
Pro	Gly	Ala	Pro	Arg	Ser	Arg	Pro	Arg	Cys	His	Pro	Ala	Gly	Gly	Arg	20	25	30	
Cys	Cys	Leu	Ala	Gln	Ala	Leu	Ser	Asp	Gln	Thr	Met	Glu	Thr	Leu	Leu	35	40	45	
Gly	Gly	Leu	Leu	Ala	Phe	Gly	Met	Ala	Phe	Ala	Val	Val	Asp	Ala	Cys	50	55	60	
Pro	Lys	Tyr	Cys	Val	Cys	Gln	Asn	Leu	Ser	Glu	Ser	Leu	Gly	Thr	Leu	65	70	75	80
Cys	Pro	Ser	Lys	Gly	Leu	Leu	Phe	Val	Pro	Pro	Asp	Ile	Asp	Arg	Arg	85	90	95	
Thr	Val	Glu	Leu	Arg	Leu	Gly	Gly	Asn	Phe	Ile	Ile	His	Ile	Ser	Arg	100	105	110	
Gln	Asp	Phe	Ala	Asn	Met	Thr	Gly	Leu	Val	Asp	Leu	Thr	Leu	Ser	Arg	115	120	125	
Asn	Thr	Ile	Ser	His	Ile	Gln	Pro	Phe	Ser	Phe	Leu	Asp	Leu	Glu	Ser	130	135	140	
Leu	Arg	Ser	Leu	His	Leu	Asp	Ser	Asn	Arg	Leu	Pro	Ser	Leu	Gly	Glu	145	150	155	160
Asp	Thr	Leu	Arg	Gly	Leu	Val	Asn	Leu	Gln	His	Leu	Ile	Val	Asn	Asn	165	170	175	
Asn	Gln	Leu	Gly	Gly	Ile	Ala	Asp	Glu	Ala	Phe	Glu	Asp	Phe	Leu	Leu	180	185	190	
Thr	Leu	Glu	Asp	Leu	Asp	Leu	Ser	Tyr	Asn	Asn	Leu	His	Gly	Leu	Pro	195	200	205	
Trp	Asp	Ser	Val	Arg	Arg	Met	Val	Asn	Leu	His	Gln	Leu	Ser	Leu	Asp	210	215	220	
His	Asn	Leu	Leu	Asp	His	Ile	Ala	Glu	Gly	Thr	Phe	Ala	Asp	Leu	Gln	225	230	235	240
Lys	Leu	Ala	Arg	Leu	Asp	Leu	Thr	Ser	Asn	Arg	Leu	Gln	Lys	Leu	Pro	245	250	255	
Pro	Asp	Pro	Ile	Phe	Ala	Arg	Ser	Gln	Ala	Ser	Ala	Leu	Thr	Ala	Thr	260	265	270	

Pro Phe Ala Pro Pro Leu Ser Phe Ser Phe Gly Gly Asn Pro Leu His  
 275 280 285  
 Cys Asn Cys Glu Leu Leu Trp Leu Arg Arg Leu Glu Arg Asp Asp Asp  
 290 295 300  
 Leu Glu Thr Cys Gly Ser Pro Gly Gly Leu Lys Gly Arg Tyr Phe Trp  
 305 310 315 320  
 His Val Arg Glu Glu Glu Phe Val Cys Glu Pro Pro Leu Ile Thr Gln  
 325 330 335  
 His Thr His Lys Leu Leu Val Leu Glu Gly Gln Ala Ala Thr Leu Lys  
 340 345 350  
 Cys Lys Ala Ile Gly Asp Pro Ser Pro Leu Ile His Trp Val Ala Pro  
 355 360 365  
 Asp Asp Arg Leu Val Gly Asn Ser Ser Arg Thr Ala Val Tyr Asp Asn  
 370 375 380  
 Gly Thr Leu Asp Ile Phe Ile Thr Thr Ser Gln Asp Ser Gly Ala Phe  
 385 390 395 400  
 Thr Cys Ile Ala Ala Asn Ala Ala Gly Glu Ala Thr Ala Met Val Glu  
 405 410 415  
 Val Ser Ile Val Gln Leu Pro His Leu Ser Asn Ser Thr Ser Arg Thr  
 420 425 430  
 Ala Pro Pro Lys Ser Arg Leu Ser Asp Ile Thr Gly Ser Ser Lys Thr  
 435 440 445  
 Ser Arg Gly Gly Gly Gly Ser Gly Gly Gly Glu Pro Pro Lys Ser Pro  
 450 455 460  
 Pro Glu Arg Ala Val Leu Val Ser Glu Val Thr Thr Thr Ser Ala Leu  
 465 470 475 480  
 Val Lys Trp Ser Val Ser Lys Ser Ala Pro Arg Val Lys Met Tyr Gln  
 485 490 495  
 Leu Gln Tyr Asn Cys Ser Asp Asp Glu Val Leu Ile Tyr Arg Met Ile  
 500 505 510  
 Pro Ala Ser Asn Lys Ala Phe Val Val Asn Asn Leu Val Ser Gly Thr  
 515 520 525  
 Gly Tyr Asp Leu Cys Val Leu Ala Met Trp Asp Asp Thr Ala Thr Thr  
 530 535 540  
 Leu Thr Ala Thr Asn Ile Val Gly Cys Ala Gln Phe Phe Thr Lys Ala  
 545 550 555 560  
 Asp Tyr Pro Gln Cys Gln Ser Met His Ser Gln Ile Leu Gly Gly Thr  
 565 570 575



Met	Ile	Leu	Val	Ile	Gly	Gly	Ile	Ile	Val	Ala	Thr	Leu	Leu	Val	Phe	580	585	590
Ile	Val	Ile	Leu	Met	Val	Arg	Tyr	Lys	Val	Cys	Asn	His	Glu	Ala	Pro	595	600	605
Ser	Lys	Met	Ala	Ala	Ala	Val	Ser	Asn	Val	Tyr	Ser	Gln	Thr	Asn	Gly	610	615	620
Ala	Gln	Pro	Pro	Pro	Pro	Ser	Ser	Ala	Pro	Ala	Gly	Ala	Pro	Pro	Gln	625	630	635
Gly	Pro	Pro	Lys	Val	Val	Val	Arg	Asn	Glu	Leu	Leu	Asp	Phe	Thr	Ala	645	650	655
Ser	Leu	Ala	Arg	Ala	Ser	Asp	Ser	Ser	Ser	Ser	Ser	Ser	Leu	Gly	Ser	660	665	670
Gly	Glu	Ala	Ala	Gly	Leu	Gly	Arg	Ala	Pro	Trp	Arg	Ile	Pro	Pro	Ser	675	680	685
Ala	Pro	Arg	Pro	Lys	Pro	Ser	Leu	Asp	Arg	Leu	Met	Gly	Ala	Phe	Ala	690	695	700
Ser	Leu	Asp	Leu	Lys	Ser	Gln	Arg	Lys	Glu	Glu	Leu	Leu	Asp	Ser	Arg	705	710	715
Thr	Pro	Ala	Gly	Arg	Gly	Ala	Gly	Thr	Ser	Ala	Arg	Gly	His	His	Ser	725	730	735
Asp	Arg	Glu	Pro	Leu	Leu	Gly	Pro	Pro	Ala	Ala	Arg	Ala	Arg	Ser	Leu	740	745	750
Leu	Pro	Leu	Pro	Leu	Glu	Gly	Lys	Ala	Lys	Arg	Ser	His	Ser	Phe	Asp	755	760	765
Met	Gly	Asp	Phe	Ala	Ala	Ala	Ala	Ala	Gly	Gly	Val	Val	Pro	Gly	Gly	770	775	780
Tyr	Ser	Pro	Pro	Arg	Lys	Val	Ser	Asn	Ile	Trp	Thr	Lys	Arg	Ser	Leu	785	790	795
Ser	Val	Asn	Gly	Met	Leu	Leu	Pro	Phe	Glu	Glu	Ser	Asp	Leu	Val	Gly	805	810	815
Ala	Arg	Gly	Thr	Phe	Gly	Ser	Ser	Glu	Trp	Val	Met	Glu	Ser	Thr	Val	820	825	830

<210> 42

<211> 789

<212> PRT

<213> Cynomolgus monkey

<400> 42

Met Glu Thr Leu Leu Gly Gly Leu Leu Ala Phe Gly Met Ala Phe Ala  
1 5 10 15  
Val Val Asp Ala Cys Pro Lys Tyr Cys Val Cys Gln Asn Leu Ser Glu  
20 25 30  
Ser Leu Gly Thr Leu Cys Pro Ser Lys Gly Leu Leu Phe Val Pro Pro  
35 40 45  
Asp Ile Asp Arg Arg Thr Val Glu Leu Arg Leu Gly Gly Asn Phe Ile  
50 55 60  
Ile His Ile Ser Arg Gln Asp Phe Ala Asn Met Thr Gly Leu Val Asp  
65 70 75 80  
Leu Thr Leu Ser Arg Asn Thr Ile Ser His Ile Gln Pro Phe Ser Phe  
85 90 95  
Leu Asp Leu Glu Ser Leu Arg Ser Leu His Leu Asp Ser Asn Arg Leu  
100 105 110  
Pro Ser Leu Gly Glu Asp Thr Leu Arg Gly Leu Val Asn Leu Gln His  
115 120 125  
Leu Ile Val Asn Asn Asn Gln Leu Gly Gly Ile Ala Asp Glu Ala Phe  
130 135 140  
Glu Asp Phe Leu Leu Thr Leu Glu Asp Leu Asp Leu Ser Tyr Asn Asn  
145 150 155 160  
Leu His Gly Leu Pro Trp Asp Ser Val Arg Arg Met Val Asn Leu His  
165 170 175  
Gln Leu Ser Leu Asp His Asn Leu Leu Asp His Ile Ala Glu Gly Thr  
180 185 190  
Phe Ala Asp Leu Gln Lys Leu Ala Arg Leu Asp Leu Thr Ser Asn Arg  
195 200 205  
Leu Gln Lys Leu Pro Pro Asp Pro Ile Phe Ala Arg Ser Gln Ala Ser  
210 215 220  
Ala Leu Thr Ala Thr Pro Phe Ala Pro Pro Leu Ser Phe Ser Phe Gly  
225 230 235 240  
Gly Asn Pro Leu His Cys Asn Cys Glu Leu Leu Trp Leu Arg Arg Leu  
245 250 255  
Glu Arg Asp Asp Asp Leu Glu Thr Cys Gly Ser Pro Gly Gly Leu Lys  
260 265 270  
Gly Arg Tyr Phe Trp His Val Arg Glu Glu Glu Phe Val Cys Glu Pro  
275 280 285  
Pro Leu Ile Thr Gln His Thr His Lys Leu Leu Val Leu Glu Gly Gln

290	295	300
Ala Ala Thr Leu Lys Cys Lys Ala Ile Gly Asp Pro Ser Pro Leu Ile 305 310 315 320		
His Trp Val Ala Pro Asp Asp Arg Leu Val Gly Asn Ser Ser Arg Thr 325 330 335		
Ala Val Tyr Asp Asn Gly Thr Leu Asp Ile Phe Ile Thr Thr Ser Gln 340 345 350		
Asp Ser Gly Ala Phe Thr Cys Ile Ala Ala Asn Ala Ala Gly Glu Ala 355 360 365		
Thr Ala Thr Val Glu Val Ser Ile Val Gln Leu Pro His Leu Ser Asn 370 375 380		
Ser Thr Ser Arg Thr Ala Pro Pro Lys Ser Arg Leu Ser Asp Ile Thr 385 390 395 400		
Gly Ser Ser Lys Thr Ser Arg Gly Gly Gly Gly Ser Gly Gly Gly Glu 405 410 415		
Pro Pro Lys Ser Pro Pro Glu Arg Ala Val Leu Val Ser Glu Val Thr 420 425 430		
Thr Thr Ser Ala Leu Ala Lys Trp Ser Val Ser Lys Ser Thr Pro Arg 435 440 445		
Val Lys Met Tyr Gln Leu Gln Tyr Asn Cys Ser Asp Asp Glu Val Leu 450 455 460		
Ile Tyr Arg Met Ile Pro Ala Ser Asn Lys Ala Phe Val Val Asn Asn 465 470 475 480		
Leu Val Ser Gly Thr Gly Tyr Asp Leu Cys Val Leu Ala Met Trp Asp 485 490 495		
Asp Thr Ala Thr Thr Leu Thr Ala Thr Asn Ile Val Gly Cys Ala Gln 500 505 510		
Phe Phe Thr Lys Ala Asp Tyr Pro Gln Cys Gln Ser Met His Ser Gln 515 520 525		
Ile Leu Gly Gly Thr Met Ile Leu Val Ile Gly Gly Ile Ile Val Ala 530 535 540		
Thr Leu Leu Val Phe Ile Val Ile Leu Met Val Arg Tyr Lys Val Cys 545 550 555 560		
Asn His Glu Ala Pro Ser Lys Met Ala Ala Ala Val Ser Asn Val Tyr 565 570 575		
Ser Gln Thr Asn Gly Ala Gln Pro Pro Pro Pro Ser Ser Ala Pro Ala 580 585 590		
Gly Ala Pro Pro Gln Gly Pro Pro Lys Val Val Val Arg Asn Glu Leu		

595					600					605				
Leu	Asp	Phe	Thr	Ala	Ser	Leu	Ala	Arg	Ala	Ser	Asp	Ser	Ser	Ser
610					615					620				
Ser	Ser	Leu	Gly	Ser	Gly	Glu	Ala	Ala	Gly	Leu	Gly	Arg	Ala	Pro
625				630						635				640
Arg	Leu	Pro	Pro	Ser	Ala	Pro	Arg	Pro	Lys	Pro	Ser	Leu	Asp	Arg
				645					650				655	Leu
Met	Gly	Ala	Phe	Ala	Ser	Leu	Asp	Leu	Lys	Ser	Gln	Arg	Lys	Glu
			660					665					670	Glu
Leu	Leu	Asp	Ser	Arg	Thr	Pro	Ala	Gly	Arg	Gly	Ala	Gly	Thr	Ser
		675					680					685		Ala
Arg	Gly	His	His	Ser	Asp	Arg	Glu	Pro	Leu	Leu	Gly	Pro	Pro	Ala
					695							700		Ala
Arg	Ala	Arg	Ser	Leu	Leu	Pro	Leu	Pro	Leu	Glu	Gly	Lys	Ala	Lys
705				710						715				720
Ser	His	Ser	Phe	Asp	Met	Gly	Asp	Phe	Ala	Ala	Ala	Ala	Ala	Gly
				725					730					735
Val	Val	Pro	Gly	Gly	Tyr	Ser	Pro	Pro	Arg	Arg	Val	Ser	Asn	Ile
			740						745				750	Trp
Thr	Lys	Arg	Ser	Leu	Ser	Val	Asn	Gly	Met	Leu	Leu	Pro	Phe	Glu
			755				760					765		Glu
Ser	Asp	Leu	Val	Gly	Ala	Arg	Gly	Thr	Phe	Gly	Ser	Ser	Glu	Trp
		770				775					780			Val
Met	Glu	Ser	Thr	Val										
785														

<210> 43

<211> 788

<212> PRT

<213> Mus musculus

<400> 43

Met	Glu	Thr	Leu	Leu	Gly	Gly	Leu	Leu	Ala	Phe	Gly	Met	Ala	Phe	Ala
1				5					10					15	

Val	Val	Asp	Ala	Cys	Pro	Lys	Tyr	Cys	Val	Cys	Gln	Asn	Leu	Ser	Glu
			20					25					30		

Ser	Leu	Gly	Thr	Leu	Cys	Pro	Ser	Lys	Arg	Leu	Leu	Phe	Val	Pro	Pro
		35					40					45			

Asp	Ile	Asp	Arg	Arg	Thr	Val	Glu	Leu	Arg	Leu	Gly	Gly	Asn	Phe	Ile
	50					55					60				

Ile	His	Ile	Gly	Arg	Gln	Asp	Phe	Ala	Asn	Met	Thr	Gly	Leu	Val	Asp	
65					70					75					80	
Leu	Thr	Leu	Ser	Arg	Asn	Thr	Ile	Ser	His	Ile	Gln	Pro	Phe	Ser	Phe	
				85					90					95		
Leu	Asp	Leu	Glu	Ser	Leu	Arg	Ser	Leu	His	Leu	Asp	Ser	Asn	Arg	Leu	
			100					105					110			
Pro	Ser	Leu	Gly	Glu	Asp	Thr	Leu	Arg	Gly	Leu	Val	Asn	Leu	Gln	His	
		115					120					125				
Leu	Ile	Val	Asn	Asn	Asn	Gln	Leu	Gly	Gly	Ile	Ala	Asp	Asp	Ala	Phe	
	130					135					140					
Glu	Asp	Phe	Leu	Leu	Thr	Leu	Glu	Asp	Leu	Asp	Leu	Ser	Tyr	Asn	Asn	
145					150					155					160	
Leu	His	Gly	Leu	Pro	Trp	Asp	Ser	Val	Arg	Arg	Met	Val	Asn	Leu	His	
				165					170					175		
Gln	Leu	Ser	Leu	Asp	His	Asn	Leu	Leu	Asp	His	Ile	Ala	Glu	Gly	Thr	
			180					185					190			
Phe	Ala	Asp	Leu	Gln	Lys	Leu	Ala	Arg	Leu	Asp	Leu	Thr	Ser	Asn	Arg	
		195					200					205				
Leu	Gln	Lys	Leu	Pro	Pro	Asp	Pro	Ile	Phe	Ala	Arg	Ser	Gln	Ala	Ser	
	210					215					220					
Leu	Leu	Thr	Ala	Thr	Pro	Phe	Ala	Pro	Pro	Leu	Ser	Phe	Ser	Phe	Gly	
225					230					235					240	
Gly	Asn	Pro	Leu	His	Cys	Asn	Cys	Glu	Leu	Leu	Trp	Leu	Arg	Arg	Leu	
				245					250					255		
Glu	Arg	Asp	Asp	Asp	Leu	Glu	Thr	Cys	Gly	Ser	Pro	Gly	Ser	Leu	Lys	
			260					265					270			
Gly	Arg	Tyr	Phe	Trp	His	Ile	Arg	Glu	Glu	Glu	Phe	Val	Cys	Glu	Pro	
		275					280					285				
Pro	Leu	Ile	Thr	Gln	His	Thr	His	Lys	Leu	Leu	Val	Leu	Glu	Gly	Gln	
	290					295					300					
Ala	Ala	Thr	Leu	Lys	Cys	Lys	Ala	Ile	Gly	Asp	Pro	Ser	Pro	Leu	Ile	
305					310					315					320	
His	Trp	Val	Ala	Pro	Asp	Asp	Arg	Leu	Val	Gly	Asn	Ser	Ser	Arg	Thr	
				325					330					335		
Ala	Val	Tyr	Asp	Asn	Gly	Thr	Leu	Asp	Ile	Leu	Ile	Thr	Thr	Ser	Gln	
			340					345					350			
Asp	Ser	Gly	Pro	Phe	Thr	Cys	Ile	Ala	Ala	Asn	Ala	Ala	Gly	Glu	Ala	
		355					360					365				

Thr	Ala	Thr	Val	Glu	Val	Ser	Ile	Val	Gln	Leu	Pro	His	Leu	Ser	Asn	370	375	380
Ser	Thr	Ser	Arg	Met	Ala	Pro	Pro	Lys	Ser	Arg	Leu	Ser	Asp	Ile	Thr	385	390	395
Gly	Ser	Ser	Lys	Thr	Ser	Arg	Gly	Gly	Gly	Gly	Ser	Gly	Ala	Gly	Glu	405	410	415
Pro	Pro	Lys	Ser	Thr	Pro	Glu	Arg	Ala	Val	Leu	Val	Ser	Asp	Val	Thr	420	425	430
Thr	Thr	Ser	Ala	Leu	Val	Lys	Trp	Ser	Val	Ser	Lys	Ser	Ala	Pro	Arg	435	440	445
Val	Lys	Met	Tyr	Gln	Leu	Gln	Tyr	Asn	Cys	Ser	Asp	Asp	Glu	Val	Leu	450	455	460
Ile	Tyr	Arg	Met	Ile	Pro	Ala	Ser	Asn	Lys	Ala	Phe	Val	Val	Asn	Asn	465	470	475
Leu	Val	Ser	Gly	Thr	Gly	Tyr	Asp	Leu	Cys	Val	Leu	Ala	Met	Trp	Asp	485	490	495
Asp	Thr	Ala	Thr	Thr	Leu	Thr	Ala	Thr	Asn	Ile	Val	Gly	Cys	Ala	Gln	500	505	510
Phe	Phe	Thr	Lys	Ala	Asp	Tyr	Pro	Gln	Cys	Gln	Ser	Met	His	Ser	Gln	515	520	525
Ile	Lys	Gly	Gly	Thr	Met	Ile	Leu	Val	Ile	Gly	Gly	Ile	Ile	Val	Ala	530	535	540
Thr	Leu	Leu	Val	Phe	Ile	Val	Ile	Leu	Met	Val	Arg	Tyr	Lys	Val	Cys	545	550	555
Asn	His	Asp	Thr	Pro	Gly	Lys	Met	Ala	Ala	Ala	Thr	Val	Ser	Asn	Val	565	570	575
Tyr	Ser	Gln	Thr	Asn	Gly	Ser	Gln	Pro	Pro	Pro	Leu	Gly	Gly	Ile	Pro	580	585	590
Val	Gly	Gln	Leu	Pro	Gln	Ala	Pro	Pro	Lys	Val	Val	Val	Arg	Asn	Glu	595	600	605
Leu	Met	Asp	Phe	Ser	Thr	Ser	Leu	Ala	Arg	Ala	Cys	Asp	Ser	Ser	Ser	610	615	620
Ser	Ser	Ser	Leu	Gly	Ser	Gly	Glu	Ala	Ala	Gly	Leu	Gly	Arg	Gly	Pro	625	630	635
Trp	Arg	Leu	Pro	Pro	Pro	Ala	Pro	Arg	Pro	Lys	Pro	Ser	Leu	Asp	Arg	645	650	655
Leu	Met	Gly	Ala	Phe	Ala	Ser	Leu	Asp	Leu	Lys	Ser	Gln	Arg	Lys	Glu	660	665	670

Glu Leu Leu Asp Ser Arg Thr Pro Ala Gly Arg Gly Ala Gly Thr Ser  
           675                                  680                                  685  
 Ser Arg Gly His His Ser Asp Arg Glu Pro Leu Leu Gly Pro Pro Ala  
           690                                  695                                  700  
 Thr Arg Ala Arg Ser Leu Leu Pro Leu Pro Leu Glu Gly Lys Ala Lys  
 705                                  710                                  715                                  720  
 Arg Ser His Ser Phe Asp Met Gly Asp Phe Ala Ala Ala Ala Ala Ala  
                                   725                                  730                                  735  
 Val Pro Gly Gly Tyr Ser Pro Pro Arg Arg Val Ser Asn Ile Trp Thr  
                                   740                                  745                                  750  
 Lys Arg Ser Leu Ser Val Asn Gly Met Leu Leu Pro Phe Glu Glu Ser  
           755                                  760                                  765  
 Asp Leu Val Gly Ala Arg Gly Thr Phe Gly Ser Ser Glu Trp Val Met  
           770                                  775                                  780  
 Glu Ser Thr Val  
 785

<210> 44  
 <211> 25  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: LRR, Leucine  
           Rich Repeat domain sequence

<400> 44  
 Asn Leu Glu Glu Leu Asp Leu Ser Asn Asn Asn Leu Ser Gly Ser Leu  
   1                                  5                                  10                                  15  
 Pro Pro Glu Ser Phe Gly Asn Leu Pro  
                                   20                                  25

<210> 45  
 <211> 24  
 <212> PRT  
 <213> Homo sapiens

<400> 45  
 Arg Val Val Glu Leu Arg Leu Thr Asp Asn Phe Ile Ala Ala Val Arg  
   1                                  5                                  10                                  15  
 Arg Arg Asp Phe Ala Asn Met Thr  
                                   20

<210> 46  
 <211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: LRR, Leucine  
Rich Repeat domain sequence

<400> 46

Asn Leu Glu Glu Leu Asp Leu Ser Asn Asn Asn Leu Ser Gly Ser Leu  
1 5 10 15

Pro Pro Glu Ser Phe Gly Asn Leu Pro  
20 25

<210> 47

<211> 24

<212> PRT

<213> Homo sapiens

<400> 47

Ser Leu Val His Leu Thr Leu Ser Arg Asn Thr Ile Gly Gln Val Ala  
1 5 10 15

Ala Gly Ala Phe Ala Asp Leu Arg  
20

<210> 48

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: LRR, Leucine  
Rich Repeat domain sequence

<400> 48

Asn Leu Glu Glu Leu Asp Leu Ser Asn Asn Asn Leu Ser Gly Ser Leu  
1 5 10 15

Pro Pro Glu Ser Phe Gly Asn Leu Pro  
20 25

<210> 49

<211> 24

<212> PRT

<213> Homo sapiens

<400> 49

Ala Leu Arg Ala Leu His Leu Asp Ser Asn Arg Leu Ala Glu Val Arg  
1 5 10 15

Gly Asp Gln Leu Arg Gly Leu Gly  
20



<210> 50  
<211> 25  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: LRR, Leucine  
Rich Repeat domain sequence

<400> 50  
Asn Leu Glu Glu Leu Asp Leu Ser Asn Asn Asn Leu Ser Gly Ser Leu  
1 5 10 15  
Pro Pro Glu Ser Phe Gly Asn Leu Pro  
20 25

<210> 51  
<211> 24  
<212> PRT  
<213> Homo sapiens

<400> 51  
Asn Leu Arg His Leu Ile Leu Gly Asn Asn Gln Ile Arg Arg Val Glu  
1 5 10 15  
Ser Ala Ala Phe Asp Ala Phe Leu  
20

<210> 52  
<211> 25  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: LRR, Leucine  
Rich Repeat domain sequence

<400> 52  
Asn Leu Glu Glu Leu Asp Leu Ser Asn Asn Asn Leu Ser Gly Ser Leu  
1 5 10 15  
Pro Pro Glu Ser Phe Gly Asn Leu Pro  
20 25

<210> 53  
<211> 24  
<212> PRT  
<213> Homo sapiens

<400> 53  
Thr Val Glu Asp Leu Asp Leu Ser Tyr Asn Asn Leu Glu Ala Leu Pro  
1 5 10 15

Trp Glu Ala Val Gly Gln Met Val  
20

<210> 54  
<211> 25  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: LRR, Leucine  
Rich Repeat domain sequence

<400> 54  
Asn Leu Glu Glu Leu Asp Leu Ser Asn Asn Asn Leu Ser Gly Ser Leu  
1 5 10 15

Pro Pro Glu Ser Phe Gly Asn Leu Pro  
20 25

<210> 55  
<211> 24  
<212> PRT  
<213> Homo sapiens

<400> 55  
Asn Leu Asn Thr Leu Thr Leu Asp His Asn Leu Ile Asp His Ile Ala  
1 5 10 15

Glu Gly Thr Phe Val Gln Leu His  
20

<210> 56  
<211> 25  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: LRR, Leucine  
Rich Repeat domain sequence

<400> 56  
Asn Leu Glu Glu Leu Asp Leu Ser Asn Asn Asn Leu Ser Gly Ser Leu  
1 5 10 15

Pro Pro Glu Ser Phe Gly Asn Leu Pro  
20 25

<210> 57  
<211> 23  
<212> PRT  
<213> Homo sapiens

<400> 57

Lys Leu Val Arg Leu Asp Met Thr Ser Asn Arg Leu His Lys Leu Pro  
 1 5 10 15

Pro Asp Gly Leu Phe Leu Arg  
 20

<210> 58

<211> 54

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: LRR, Leucine  
 Rich Repeat domain sequence

<400> 58

Asn Pro Phe Asn Cys Asp Cys Glu Leu Arg Trp Leu Leu Arg Trp Leu  
 1 5 10 15

Arg Glu Thr Asn Pro Arg Arg Leu Glu Asp Gln Glu Asp Leu Arg Cys  
 20 25 30

Ala Ser Pro Glu Ser Leu Arg Gly Gln Pro Leu Leu Glu Leu Leu Pro  
 35 40 45

Ser Asp Phe Ser Cys Pro  
 50

<210> 59

<211> 46

<212> PRT

<213> Homo sapiens

<400> 59

Asn Pro Leu His Cys Asn Cys Glu Leu Leu Trp Leu Arg Arg Leu Thr  
 1 5 10 15

Arg Glu Asp Asp Leu Glu Thr Cys Ala Thr Pro Glu His Leu Thr Asp  
 20 25 30

Arg Tyr Phe Trp Ser Ile Pro Glu Glu Glu Phe Leu Cys Glu  
 35 40 45

<210> 60

<211> 45

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Immunoglobulin  
 domain sequence

<400> 60

Gly Glu Ser Val Thr Leu Thr Cys Ser Val Ser Gly Phe Gly Pro Pro

1	5	10	15
Pro Val Thr Trp	Leu Arg Asn Gly Lys	Leu Ser Leu Thr	Ile Ser Val
20	25	30	
Thr Pro Glu Asp	Ser Gly Gly Thr Tyr Thr	Cys Val Val	
35	40	45	

<210> 61  
 <211> 59  
 <212> PRT  
 <213> Homo sapiens

<400> 61
Gly Gln Ala Val Ser Leu Arg Cys Arg Ala Val Gly Asp Pro Glu Pro
1 5 10 15
Val Val His Trp Val Ala Pro Asp Gly Arg Leu Leu Gly Asn Ser Ser
20 25 30
Arg Thr Arg Val Arg Gly Asp Gly Thr Leu Asp Val Thr Ile Thr Thr
35 40 45
Leu Arg Asp Ser Gly Thr Phe Thr Cys Ile Ala
50 55

<210> 62  
 <211> 84  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Fibronectin  
 Type III domain sequence

<400> 62
Pro Ser Ala Pro Thr Asn Leu Thr Val Thr Asp Val Thr Ser Thr Ser
1 5 10 15
Leu Thr Leu Ser Trp Ser Pro Pro Thr Gly Asn Gly Pro Ile Thr Gly
20 25 30
Tyr Glu Val Thr Tyr Arg Gln Pro Lys Asn Gly Gly Glu Trp Asn Glu
35 40 45
Leu Thr Val Pro Gly Thr Thr Thr Ser Tyr Thr Leu Thr Gly Leu Lys
50 55 60
Pro Gly Thr Glu Tyr Glu Val Arg Val Gln Ala Val Asn Gly Gly Gly
65 70 75 80
Gly Pro Glu Ser

<210> 63  
 <211> 81  
 <212> PRT  
 <213> Homo sapiens

<400> 63  
 Ser Ala Ala Glu Arg Arg Leu Val Ala Ala Glu Leu Thr Ser Asn Ser  
     1                    5                    10                    15  
 Val Leu Ile Arg Trp Pro Ala Gln Arg Pro Val Pro Gly Ile Arg Met  
                     20                    25                    30  
 Tyr Gln Val Gln Tyr Asn Ser Ser Val Asp Asp Ser Leu Val Tyr Arg  
                     35                    40                    45  
 Met Ile Pro Ser Thr Ser Gln Thr Phe Leu Val Asn Asp Leu Ala Ala  
     50                    55                    60  
 Gly Arg Ala Tyr Asp Leu Cys Val Leu Ala Val Tyr Asp Asp Gly Ala  
     65                    70                    75                    80  
 Thr

<210> 64  
 <211> 405  
 <212> PRT  
 <213> Homo sapiens

<400> 64  
 Met Glu Arg Leu Gln Lys Gln Pro Leu Thr Ser Pro Gly Ser Val Ser  
     1                    5                    10                    15  
 Pro Ser Arg Asp Ser Ser Val Pro Gly Ser Pro Ser Ser Ile Val Ala  
                     20                    25                    30  
 Lys Met Asp Asn Gln Val Leu Gly Tyr Lys Asp Leu Ala Ala Ile Pro  
                     35                    40                    45  
 Lys Asp Lys Ala Ile Leu Asp Ile Glu Arg Pro Asp Leu Met Ile Tyr  
     50                    55                    60  
 Glu Pro His Phe Thr Tyr Ser Leu Leu Glu His Val Glu Leu Pro Arg  
     65                    70                    75                    80  
 Ser Arg Glu Arg Ser Leu Ser Pro Lys Ser Thr Ser Pro Pro Pro Ser  
                     85                    90                    95  
 Pro Glu Val Trp Ala Asp Ser Arg Ser Pro Gly Ile Ile Ser Gln Ala  
                     100                    105                    110  
 Ser Ala Pro Arg Thr Thr Gly Thr Pro Arg Thr Ser Leu Pro His Phe  
     115                    120                    125  
 His His Pro Glu Thr Ser Arg Pro Asp Ser Asn Ile Tyr Lys Lys Pro  
     130                    135                    140

Pro Ile Tyr Lys Gln Arg Glu Ser Val Gly Gly Ser Pro Gln Thr Lys  
 145 150 155 160  
 His Leu Ile Glu Asp Leu Ile Ile Glu Ser Ser Lys Phe Pro Ala Ala  
 165 170 175  
 Gln Pro Pro Asp Pro Asn Gln Pro Ala Lys Ile Glu Thr Asp Tyr Trp  
 180 185 190  
 Pro Cys Pro Pro Ser Leu Ala Val Val Glu Thr Glu Trp Arg Lys Arg  
 195 200 205  
 Lys Ala Ser Arg Arg Gly Ala Glu Glu Glu Glu Glu Glu Asp Asp  
 210 215 220  
 Asp Ser Gly Glu Glu Met Lys Ala Leu Arg Glu Arg Gln Arg Glu Glu  
 225 230 235 240  
 Leu Ser Lys Val Thr Ser Asn Leu Gly Lys Met Ile Leu Lys Glu Glu  
 245 250 255  
 Met Glu Lys Ser Leu Pro Ile Arg Arg Lys Thr Arg Ser Leu Pro Asp  
 260 265 270  
 Arg Thr Pro Phe His Thr Ser Leu His Gln Gly Thr Ser Lys Ser Ser  
 275 280 285  
 Ser Leu Pro Ala Tyr Gly Arg Thr Thr Leu Ser Arg Leu Gln Ser Thr  
 290 295 300  
 Glu Phe Ser Pro Ser Gly Ser Glu Thr Gly Ser Pro Gly Leu Gln Asn  
 305 310 315 320  
 Gly Glu Gly Gln Arg Gly Arg Met Asp Arg Gly Asn Ser Leu Pro Cys  
 325 330 335  
 Val Leu Glu Gln Lys Ile Tyr Pro Tyr Glu Met Leu Val Val Thr Asn  
 340 345 350  
 Lys Gly Arg Thr Lys Leu Pro Pro Gly Val Asp Arg Met Arg Leu Glu  
 355 360 365  
 Arg His Leu Ser Ala Glu Asp Phe Ser Arg Val Phe Ala Met Ser Pro  
 370 375 380  
 Glu Glu Phe Gly Lys Leu Ala Leu Trp Lys Arg Asn Glu Leu Lys Lys  
 385 390 395 400  
 Lys Ala Ser Leu Phe  
 405

<210> 65  
 <211> 383  
 <212> PRT  
 <213> Homo sapiens

<400> 65

Met	Glu	Arg	Leu	Gln	Lys	Gln	Pro	Leu	Thr	Ser	Pro	Gly	Ser	Val	Ser		
1				5					10					15			
Pro	Ser	Arg	Asp	Ser	Ser	Val	Pro	Gly	Ser	Pro	Ser	Ser	Ile	Val	Ala		
			20					25					30				
Lys	Met	Asp	Asn	Gln	Val	Leu	Gly	Tyr	Lys	Asp	Leu	Ala	Ala	Ile	Pro		
		35					40					45					
Lys	Asp	Lys	Ala	Ile	Leu	Asp	Ile	Glu	Arg	Pro	Asp	Leu	Met	Ile	Tyr		
	50					55					60						
Glu	Pro	His	Phe	Thr	Tyr	Ser	Leu	Leu	Glu	His	Val	Glu	Leu	Pro	Arg		
65					70					75					80		
Ser	Arg	Glu	Arg	Ser	Leu	Ser	Pro	Lys	Ser	Thr	Ser	Pro	Pro	Pro	Ser		
				85					90						95		
Pro	Glu	Val	Trp	Ala	Asp	Ser	Arg	Ser	Pro	Gly	Ile	Ile	Ser	Gln	Ala		
			100					105					110				
Ser	Ala	Pro	Arg	Thr	Thr	Gly	Thr	Pro	Arg	Thr	Ser	Leu	Pro	His	Phe		
	115						120					125					
His	His	Pro	Glu	Thr	Ser	Arg	Pro	Asp	Ser	Asn	Ile	Tyr	Lys	Lys	Pro		
	130					135					140						
Pro	Ile	Tyr	Lys	Gln	Arg	Glu	Ser	Val	Gly	Gly	Ser	Pro	Gln	Thr	Lys		
145					150					155					160		
His	Leu	Ile	Glu	Asp	Leu	Ile	Ile	Glu	Ser	Ser	Lys	Phe	Pro	Ala	Ala		
			165					170						175			
Gln	Pro	Pro	Asp	Pro	Asn	Gln	Pro	Ala	Lys	Ile	Glu	Thr	Asp	Tyr	Trp		
			180					185					190				
Pro	Cys	Pro	Pro	Ser	Leu	Ala	Val	Val	Glu	Thr	Glu	Trp	Arg	Lys	Arg		
	195						200					205					
Lys	Ala	Ser	Arg	Arg	Gly	Ala	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Asp	Asp		
	210					215					220						
Asp	Ser	Gly	Glu	Glu	Met	Lys	Ala	Leu	Arg	Glu	Arg	Gln	Arg	Glu	Glu		
225					230					235					240		
Leu	Ser	Lys	Val	Thr	Ser	Asn	Leu	Gly	Lys	Met	Ile	Leu	Lys	Glu	Glu		
			245						250					255			
Met	Glu	Lys	Ser	Leu	Pro	Ile	Arg	Arg	Lys	Thr	Arg	Ser	Leu	Pro	Asp		
			260					265					270				
Arg	Thr	Pro	Phe	His	Thr	Ser	Leu	His	Gln	Gly	Thr	Ser	Lys	Ser	Ser		
	275						280						285				
Ser	Leu	Pro	Ala	Tyr	Gly	Arg	Thr	Thr	Leu	Ser	Arg	Leu	Gln	Ser	Thr		

290		295		300
Glu Phe Ser Pro Ser Gly Ser Glu Thr Gly Ser Pro Asp Pro Gln Ile				
305		310	315	320
Tyr Pro Tyr Glu Met Leu Val Val Thr Asn Lys Gly Arg Thr Lys Leu				
	325		330	335
Pro Pro Gly Val Asp Arg Met Arg Leu Glu Arg His Leu Ser Ala Glu				
	340		345	350
Asp Phe Ser Arg Val Phe Ala Met Ser Pro Glu Glu Phe Gly Lys Leu				
	355		360	365
Ala Leu Trp Lys Arg Asn Glu Leu Lys Lys Lys Ala Ser Leu Phe				
	370		375	380

<210> 66  
 <211> 383  
 <212> PRT  
 <213> Homo sapiens

<400> 66
Met Glu Arg Leu Gln Lys Gln Pro Leu Thr Ser Pro Gly Ser Val Ser
1 5 10 15
Pro Ser Arg Asp Ser Ser Val Pro Gly Ser Pro Ser Ser Ile Val Ala
20 25 30
Lys Met Asp Asn Gln Val Leu Gly Tyr Lys Asp Leu Ala Ala Ile Pro
35 40 45
Lys Asp Lys Ala Ile Leu Asp Ile Glu Arg Pro Asp Leu Met Ile Tyr
50 55 60
Glu Pro His Phe Thr Tyr Ser Leu Leu Glu His Val Glu Leu Pro Arg
65 70 75 80
Gln Arg Glu Arg Ser Leu Ser Pro Lys Ser Thr Ser Pro Pro Pro Ser
85 90 95
Pro Glu Val Trp Ala Asp Ser Arg Ser Pro Gly Ile Ile Ser Gln Ala
100 105 110
Ser Ala Pro Arg Thr Thr Gly Thr Pro Arg Thr Ser Leu Pro His Phe
115 120 125
His His Pro Glu Thr Ser Arg Pro Asp Ser Asn Ile Tyr Lys Lys Pro
130 135 140
Pro Ile Tyr Lys Gln Arg Glu Ser Val Gly Gly Ser Pro Gln Thr Lys
145 150 155 160
His Leu Ile Glu Asp Leu Ile Ile Glu Ser Ser Lys Phe Pro Ala Ala
165 170 175



Gln Pro Pro Asp Pro Asn Gln Pro Ala Lys Ile Glu Thr Asp Tyr Trp  
 180 185 190  
 Pro Cys Pro Pro Ser Leu Ala Val Val Glu Thr Glu Trp Arg Lys Arg  
 195 200 205  
 Lys Ala Ser Arg Arg Gly Ala Glu Glu Glu Glu Glu Glu Glu Asp Asp  
 210 215 220  
 Asp Ser Gly Glu Glu Met Lys Ala Leu Arg Glu Arg Gln Arg Glu Glu  
 225 230 235 240  
 Leu Ser Lys Val Thr Ser Asn Leu Gly Lys Met Ile Leu Lys Glu Glu  
 245 250 255  
 Met Glu Lys Ser Leu Pro Ile Arg Arg Lys Thr Arg Ser Leu Pro Asp  
 260 265 270  
 Arg Thr Pro Phe His Thr Ser Leu His Gln Gly Thr Ser Lys Ser Ser  
 275 280 285  
 Ser Leu Pro Arg Tyr Gly Arg Thr Thr Leu Ser Arg Leu Gln Ser Thr  
 290 295 300  
 Glu Phe Ser Pro Ser Gly Ser Glu Thr Gly Ser Pro Gly Leu Gln Ile  
 305 310 315 320  
 Tyr Pro Tyr Glu Val Leu Val Val Thr Asn Lys Gly Arg Thr Lys Leu  
 325 330 335  
 Pro Pro Gly Val Asp Arg Met Arg Leu Glu Arg His Leu Ser Ala Glu  
 340 345 350  
 Asp Phe Ser Arg Val Ser Ala Met Ser Pro Glu Glu Phe Gly Lys Leu  
 355 360 365  
 Ala Leu Trp Lys Arg Asn Glu Leu Lys Lys Lys Ala Ser Leu Phe  
 370 375 380

<210> 67

<211> 405

<212> PRT

<213> Homo sapiens

<400> 67

Met Glu Arg Leu Gln Lys Gln Pro Leu Thr Ser Pro Gly Ser Val Ser  
 1 5 10 15

Pro Ser Arg Asp Ser Ser Val Pro Gly Ser Pro Ser Ser Ile Val Ala  
 20 25 30

Lys Met Asp Asn Gln Val Leu Gly Tyr Lys Asp Leu Ala Ala Ile Pro  
 35 40 45

Lys Asp Lys Ala Ile Leu Asp Ile Glu Arg Pro Asp Leu Met Ile Tyr  
 50 55 60

Glu	Pro	His	Phe	Thr	Tyr	Ser	Leu	Leu	Glu	His	Val	Glu	Leu	Pro	Arg	65	70	75	80
Gln	Arg	Glu	Arg	Ser	Leu	Ser	Pro	Lys	Ser	Thr	Ser	Pro	Pro	Pro	Ser	85	90	95	
Pro	Glu	Val	Trp	Ala	Asp	Ser	Arg	Ser	Pro	Gly	Ile	Ile	Ser	Gln	Ala	100	105	110	
Ser	Ala	Pro	Arg	Thr	Thr	Gly	Thr	Pro	Arg	Thr	Ser	Leu	Pro	His	Phe	115	120	125	
His	His	Pro	Glu	Thr	Ser	Arg	Pro	Asp	Ser	Asn	Ile	Tyr	Lys	Lys	Pro	130	135	140	
Pro	Ile	Tyr	Lys	Gln	Arg	Glu	Ser	Val	Gly	Gly	Ser	Pro	Gln	Thr	Lys	145	150	155	160
His	Leu	Ile	Glu	Asp	Leu	Ile	Ile	Glu	Ser	Ser	Lys	Phe	Pro	Ala	Ala	165	170	175	
Gln	Pro	Pro	Asp	Pro	Asn	Gln	Pro	Ala	Lys	Ile	Glu	Thr	Asp	Tyr	Trp	180	185	190	
Pro	Cys	Pro	Pro	Ser	Leu	Ala	Val	Val	Glu	Thr	Glu	Trp	Arg	Lys	Arg	195	200	205	
Lys	Ala	Ser	Arg	Arg	Gly	Ala	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Asp	Asp	210	215	220	
Asp	Ser	Gly	Glu	Glu	Met	Lys	Ala	Leu	Arg	Glu	Arg	Gln	Arg	Glu	Glu	225	230	235	240
Leu	Ser	Lys	Val	Thr	Ser	Asn	Leu	Gly	Lys	Met	Ile	Leu	Lys	Glu	Glu	245	250	255	
Met	Glu	Lys	Ser	Leu	Pro	Ile	Arg	Arg	Lys	Thr	Arg	Ser	Leu	Pro	Asp	260	265	270	
Arg	Thr	Pro	Phe	His	Thr	Ser	Leu	His	Gln	Gly	Thr	Ser	Lys	Ser	Ser	275	280	285	
Ser	Leu	Pro	Arg	Tyr	Gly	Arg	Thr	Thr	Leu	Ser	Arg	Leu	Gln	Ser	Thr	290	295	300	
Glu	Phe	Ser	Pro	Ser	Gly	Ser	Glu	Thr	Gly	Ser	Pro	Gly	Leu	Gln	Asn	305	310	315	320
Gly	Glu	Gly	Gln	Arg	Gly	Arg	Met	Asp	Arg	Gly	Asn	Ser	Leu	Pro	Cys	325	330	335	
Val	Leu	Glu	Gln	Lys	Ile	Tyr	Pro	Tyr	Glu	Met	Leu	Val	Val	Thr	Asn	340	345	350	
Lys	Gly	Arg	Thr	Lys	Leu	Pro	Pro	Gly	Val	Asp	Arg	Met	Arg	Leu	Glu	355	360	365	

Arg His Leu Ser Ala Glu Asp Phe Ser Arg Val Phe Ala Met Ser Pro  
370 375 380

Glu Glu Phe Gly Lys Leu Ala Leu Trp Lys Arg Asn Glu Leu Lys Lys  
385 390 395 400

Lys Ala Ser Leu Phe  
405

<210> 68

<211> 405

<212> PRT

<213> Homo sapiens

<400> 68

Met Glu Arg Leu Gln Lys Gln Pro Leu Thr Ser Pro Gly Ser Val Ser  
1 5 10 15

Pro Ser Arg Asp Ser Ser Val Pro Gly Ser Pro Ser Ser Ile Val Ala  
20 25 30

Lys Met Asp Asn Gln Val Leu Gly Tyr Lys Asp Leu Ala Ala Ile Pro  
35 40 45

Lys Asp Lys Ala Ile Leu Asp Ile Glu Arg Pro Asp Leu Met Ile Tyr  
50 55 60

Glu Pro His Phe Thr Tyr Ser Leu Leu Glu His Val Glu Leu Pro Arg  
65 70 75 80

Ser Arg Glu Arg Ser Leu Ser Pro Lys Ser Thr Ser Pro Pro Pro Ser  
85 90 95

Pro Glu Val Trp Ala Asp Ser Arg Ser Pro Gly Ile Ile Ser Gln Ala  
100 105 110

Ser Ala Pro Arg Thr Thr Gly Thr Pro Arg Thr Ser Leu Pro His Phe  
115 120 125

His His Pro Glu Thr Ser Arg Pro Asp Ser Asn Ile Tyr Lys Lys Pro  
130 135 140

Pro Ile Tyr Lys Gln Arg Glu Ser Val Gly Gly Ser Pro Gln Thr Lys  
145 150 155 160

His Leu Ile Glu Asp Leu Ile Ile Glu Ser Ser Lys Phe Pro Ala Ala  
165 170 175

Gln Pro Pro Asp Pro Asn Gln Pro Ala Lys Ile Glu Thr Asp Tyr Trp  
180 185 190

Pro Cys Pro Pro Ser Leu Ala Val Val Glu Thr Glu Trp Arg Lys Arg  
195 200 205

Lys Ala Ser Arg Arg Gly Ala Glu Glu Glu Glu Glu Glu Asp Asp

210	215	220
Asp Ser Gly Glu Glu Met Lys Ala Leu Arg Glu Arg Gln Arg Glu Glu 225 230 235 240		
Leu Ser Lys Val Thr Ser Asn Leu Gly Lys Met Ile Leu Lys Glu Glu 245 250 255		
Met Glu Lys Ser Leu Pro Ile Arg Arg Lys Thr Arg Ser Leu Pro Asp 260 265 270		
Arg Thr Pro Phe His Thr Ser Leu His Gln Gly Thr Ser Lys Ser Ser 275 280 285		
Ser Leu Pro Ala Tyr Gly Arg Thr Thr Leu Ser Arg Leu Gln Ser Thr 290 295 300		
Glu Phe Ser Pro Ser Gly Ser Glu Thr Gly Ser Pro Ala Pro Gln Asn 305 310 315 320		
Gly Glu Gly Gln Arg Gly Arg Met Asp Arg Gly Asn Ser Leu Pro Cys 325 330 335		
Val Leu Glu Gln Lys Ile Tyr Pro Tyr Glu Met Leu Val Val Thr Asn 340 345 350		
Lys Gly Arg Thr Lys Leu Pro Pro Gly Val Asp Arg Met Arg Leu Glu 355 360 365		
Arg His Leu Ser Ala Glu Asp Phe Ser Arg Val Phe Ala Met Ser Pro 370 375 380		
Glu Glu Phe Gly Lys Leu Ala Leu Trp Lys Arg Asn Glu Leu Lys Lys 385 390 395 400		
Lys Ala Ser Leu Phe 405		

<210> 69

<211> 36

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: VHP, Villin  
headpiece domain sequence

<400> 69

Tyr	Leu	Ser	Asp	Glu	Asp	Phe	Glu	Glu	Val	Phe	Gly	Met	Thr	Lys	Glu
1				5					10					15	

Glu	Phe	Tyr	Lys	Leu	Pro	Leu	Trp	Lys	Gln	Asn	Gln	Leu	Lys	Lys	Lys
			20					25					30		

Leu	Gly	Leu	Phe
			35

<210> 70  
<211> 36  
<212> PRT  
<213> Homo sapiens

<400> 70  
His Leu Ser Ala Glu Asp Phe Ser Arg Val Phe Ala Met Ser Pro Glu  
1 5 10 15  
Glu Phe Gly Lys Leu Ala Leu Trp Lys Arg Asn Glu Leu Lys Lys Lys  
20 25 30  
Ala Ser Leu Phe  
35

<210> 71  
<211> 36  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: VHP, Villin  
headpiece domain sequence

<400> 71  
Tyr Leu Ser Asp Glu Asp Phe Glu Glu Val Phe Gly Met Thr Lys Glu  
1 5 10 15  
Glu Phe Tyr Lys Leu Pro Ala Trp Lys Gln Asn Gln Leu Lys Lys Lys  
20 25 30  
Leu Gly Leu Phe  
35

<210> 72  
<211> 36  
<212> PRT  
<213> Homo sapiens

<400> 72  
His Leu Ser Ala Glu Asp Phe Ser Arg Val Phe Ala Met Ser Pro Glu  
1 5 10 15  
Glu Phe Gly Lys Leu Ala Leu Trp Lys Arg Asn Glu Leu Lys Lys Lys  
20 25 30  
Ala Ser Leu Phe  
35

<210> 73  
<211> 959  
<212> PRT

<213> Homo sapiens

<400> 73

Met	Glu	Lys	Met	Leu	Ala	Gly	Cys	Phe	Leu	Leu	Ile	Leu	Gly	Gln	Ile
1				5					10					15	
Val	Leu	Leu	Pro	Cys	Glu	Ala	Arg	Glu	Arg	Ser	Arg	Gly	Arg	Ser	Ile
			20					25					30		
Ser	Arg	Gly	Arg	His	Ala	Arg	Thr	His	Pro	Gln	Thr	Ala	Leu	Leu	Glu
		35					40					45			
Ser	Ser	Cys	Glu	Asn	Lys	Arg	Ala	Asp	Leu	Val	Phe	Ile	Ile	Asp	Ser
	50					55					60				
Ser	Arg	Ser	Val	Asn	Thr	His	Asp	Tyr	Ala	Lys	Val	Lys	Glu	Phe	Ile
65					70					75					80
Val	Asp	Ile	Leu	Gln	Phe	Leu	Asp	Ile	Gly	Pro	Asp	Val	Thr	Arg	Val
				85					90					95	
Gly	Leu	Leu	Gln	Tyr	Gly	Ser	Thr	Val	Lys	Asn	Glu	Phe	Ser	Leu	Lys
			100					105					110		
Thr	Phe	Lys	Arg	Lys	Ser	Glu	Val	Glu	Arg	Ala	Val	Lys	Arg	Met	Arg
		115					120						125		
His	Leu	Ser	Thr	Gly	Thr	Met	Thr	Gly	Leu	Ala	Ile	Gln	Tyr	Ala	Leu
	130					135					140				
Asn	Ile	Ala	Phe	Ser	Glu	Ala	Glu	Gly	Ala	Arg	Pro	Leu	Arg	Glu	Asn
145					150					155					160
Val	Pro	Arg	Val	Ile	Met	Ile	Val	Thr	Asp	Gly	Arg	Pro	Gln	Asp	Ser
				165					170					175	
Val	Ala	Glu	Val	Ala	Ala	Lys	Ala	Arg	Asp	Thr	Gly	Ile	Leu	Ile	Phe
			180					185					190		
Ala	Ile	Gly	Val	Gly	Gln	Val	Asp	Phe	Asn	Thr	Leu	Lys	Ser	Ile	Gly
		195					200					205			
Ser	Glu	Pro	His	Glu	Asp	His	Val	Phe	Leu	Val	Ala	Asn	Phe	Ser	Gln
	210					215					220				
Ile	Glu	Thr	Leu	Thr	Ser	Val	Phe	Gln	Lys	Lys	Leu	Cys	Thr	Ala	His
225					230					235					240
Met	Cys	Ser	Thr	Leu	Glu	His	Asn	Cys	Ala	His	Phe	Cys	Ile	Asn	Ile
				245					250					255	
Pro	Gly	Ser	Tyr	Val	Cys	Arg	Cys	Lys	Gln	Gly	Tyr	Ile	Leu	Asn	Ser
			260					265					270		
Asp	Gln	Thr	Thr	Cys	Arg	Ile	Gln	Asp	Leu	Cys	Ala	Met	Glu	Asp	His
		275					280					285			

Asn Cys Glu Gln Leu Cys Val Asn Val Pro Gly Ser Phe Val Cys Glu  
 290 295 300  
 Cys Tyr Ser Gly Tyr Ala Leu Ala Glu Asp Gly Lys Arg Cys Val Ala  
 305 310 315 320  
 Val Asp Tyr Cys Ala Ser Glu Asn His Gly Cys Glu His Glu Cys Val  
 325 330 335  
 Asn Ala Asp Gly Ser Tyr Leu Cys Gln Cys His Glu Gly Phe Ala Leu  
 340 345 350  
 Asn Pro Asp Glu Lys Thr Cys Thr Lys Ile Asp Tyr Cys Ala Ser Ser  
 355 360 365  
 Asn His Gly Cys Gln Tyr Glu Cys Val Asn Thr Asp Asp Ser Tyr Ser  
 370 375 380  
 Cys His Cys Leu Lys Gly Phe Thr Leu Asn Pro Asp Lys Lys Thr Cys  
 385 390 395 400  
 Arg Arg Ile Asn Tyr Cys Ala Leu Asn Lys Pro Gly Cys Glu His Glu  
 405 410 415  
 Cys Val Asn Met Glu Glu Ser Tyr Tyr Cys Arg Cys His Arg Gly Tyr  
 420 425 430  
 Thr Leu Asp Pro Asn Gly Lys Pro Cys Ser Arg Val Asp His Cys Ala  
 435 440 445  
 Gln Gln Asp His Gly Cys Glu Gln Leu Cys Leu Asn Thr Glu Asp Ser  
 450 455 460  
 Phe Val Cys Gln Cys Ser Glu Gly Phe Leu Ile Asn Glu Asp Leu Lys  
 465 470 475 480  
 Thr Cys Ser Arg Val Asp Tyr Cys Leu Leu Ser Asp His Gly Cys Glu  
 485 490 495  
 Tyr Ser Cys Val Asn Met Asp Arg Ser Phe Ala Cys Gln Cys Pro Glu  
 500 505 510  
 Gly His Val Leu Arg Ser Asp Gly Lys Thr Cys Ala Lys Leu Asp Ser  
 515 520 525  
 Cys Ala Leu Gly Asp His Gly Cys Glu His Ser Cys Val Ser Ser Glu  
 530 535 540  
 Asp Ser Phe Val Cys Gln Cys Phe Glu Gly Tyr Ile Leu Arg Glu Asp  
 545 550 555 560  
 Gly Lys Thr Cys Arg Arg Lys Asp Val Cys Gln Ala Ile Asp His Gly  
 565 570 575  
 Cys Glu His Ile Cys Val Asn Ser Asp Asp Ser Tyr Thr Cys Glu Cys  
 580 585 590

Leu Glu Gly Phe Arg Leu Thr Glu Asp Gly Lys Arg Cys Arg Ile Ser  
 595 600 605  
 Ser Gly Lys Asp Val Cys Lys Ser Thr His His Gly Cys Glu His Ile  
 610 615 620  
 Cys Val Asn Asn Gly Asn Ser Tyr Ile Cys Lys Cys Ser Glu Gly Phe  
 625 630 635 640  
 Val Leu Ala Glu Asp Gly Arg Arg Cys Lys Lys Cys Thr Glu Gly Pro  
 645 650 655  
 Ile Asp Leu Val Phe Val Ile Asp Gly Ser Lys Ser Leu Gly Glu Glu  
 660 665 670  
 Asn Phe Glu Val Val Lys Gln Phe Val Thr Gly Ile Ile Asp Ser Leu  
 675 680 685  
 Thr Ile Ser Pro Lys Ala Ala Arg Val Gly Leu Leu Gln Tyr Ser Thr  
 690 695 700  
 Gln Val His Thr Glu Phe Thr Leu Arg Asn Phe Asn Ser Ala Lys Asp  
 705 710 715 720  
 Met Lys Lys Ala Val Ala His Met Lys Tyr Met Gly Lys Gly Ser Met  
 725 730 735  
 Thr Gly Leu Ala Leu Lys His Met Phe Glu Arg Ser Phe Thr Gln Gly  
 740 745 750  
 Glu Gly Ala Arg Pro Phe Ser Thr Arg Val Pro Arg Ala Ala Ile Val  
 755 760 765  
 Phe Thr Asp Gly Arg Ala Gln Asp Asp Val Ser Glu Trp Ala Ser Lys  
 770 775 780  
 Ala Lys Ala Asn Gly Ile Thr Met Tyr Ala Val Gly Val Gly Lys Ala  
 785 790 795 800  
 Ile Glu Glu Glu Leu Gln Glu Ile Ala Ser Glu Pro Thr Asn Lys His  
 805 810 815  
 Leu Phe Tyr Ala Glu Asp Phe Ser Thr Met Asp Glu Ile Ser Glu Lys  
 820 825 830  
 Leu Lys Lys Gly Ile Cys Glu Ala Leu Glu Asp Ser Asp Gly Arg Gln  
 835 840 845  
 Asp Ser Pro Ala Gly Glu Leu Pro Lys Thr Val Gln Gln Pro Thr Glu  
 850 855 860  
 Ser Glu Pro Val Thr Ile Asn Ile Gln Asp Leu Leu Ser Cys Ser Asn  
 865 870 875 880  
 Phe Ala Val Gln His Arg Tyr Leu Phe Glu Glu Asp Asn Leu Leu Arg  
 885 890 895



Ser Thr Gln Lys Leu Ser His Ser Thr Lys Pro Ser Gly Ser Pro Leu  
 900 905 910

Glu Glu Lys His Asp Gln Cys Lys Cys Glu Asn Leu Ile Met Phe Gln  
 915 920 925

Asn Leu Ala Asn Glu Glu Val Arg Lys Leu Thr Gln Arg Leu Glu Glu  
 930 935 940

Met Thr Gln Arg Met Glu Ala Leu Glu Asn Arg Leu Arg Tyr Arg  
 945 950 955

<210> 74

<211> 956

<212> PRT

<213> Homo sapiens

<400> 74

Met Glu Lys Met Leu Ala Gly Cys Phe Leu Leu Ile Leu Gly Gln Ile  
 1 5 10 15

Val Leu Leu Pro Ala Glu Ala Arg Glu Arg Ser Arg Gly Arg Ser Ile  
 20 25 30

Ser Arg Gly Arg His Ala Arg Thr His Pro Gln Thr Ala Leu Leu Glu  
 35 40 45

Ser Ser Cys Glu Asn Lys Arg Ala Asp Leu Val Phe Ile Ile Asp Ser  
 50 55 60

Ser Arg Ser Val Asn Thr His Asp Tyr Ala Lys Val Lys Glu Phe Ile  
 65 70 75 80

Val Asp Ile Leu Gln Phe Leu Asp Ile Gly Pro Asp Val Thr Arg Val  
 85 90 95

Gly Leu Leu Gln Tyr Gly Ser Thr Val Lys Asn Glu Phe Ser Leu Lys  
 100 105 110

Thr Phe Lys Arg Lys Ser Glu Val Glu Arg Ala Val Lys Arg Met Arg  
 115 120 125

His Leu Ser Thr Gly Thr Met Thr Gly Leu Ala Ile Gln Tyr Ala Leu  
 130 135 140

Asn Ile Ala Phe Ser Glu Ala Glu Gly Ala Arg Pro Leu Arg Glu Asn  
 145 150 155 160

Val Pro Arg Val Ile Met Ile Val Thr Asp Gly Arg Pro Gln Asp Ser  
 165 170 175

Val Ala Glu Val Ala Ala Lys Ala Arg Asp Thr Gly Ile Leu Ile Phe  
 180 185 190

Ala Ile Gly Val Gly Gln Val Asp Phe Asn Thr Leu Lys Ser Ile Gly  
 195 200 205

Ser Glu Pro His Glu Asp His Val Phe Leu Val Ala Asn Phe Ser Gln  
 210 215 220  
 Ile Glu Thr Leu Thr Ser Val Phe Gln Lys Lys Leu Cys Thr Ala His  
 225 230 235 240  
 Met Cys Ser Thr Leu Glu His Asn Cys Ala His Phe Cys Ile Asn Ile  
 245 250 255  
 Pro Gly Ser Tyr Val Cys Arg Cys Lys Gln Gly Tyr Ile Leu Asn Ser  
 260 265 270  
 Asp Gln Thr Thr Cys Arg Ile Gln Asp Leu Cys Ala Met Glu Asp His  
 275 280 285  
 Asn Cys Glu Gln Leu Cys Val Asn Val Pro Gly Ser Phe Val Cys Gln  
 290 295 300  
 Cys Tyr Ser Gly Tyr Ala Leu Ala Glu Asp Gly Lys Arg Cys Val Ala  
 305 310 315 320  
 Val Asp Tyr Cys Ala Ser Glu Asn His Gly Cys Glu His Glu Cys Val  
 325 330 335  
 Asn Ala Asp Gly Ser Tyr Leu Cys Gln Cys His Glu Gly Phe Ala Leu  
 340 345 350  
 Asn Pro Asp Lys Lys Thr Cys Thr Lys Ile Asp Tyr Cys Ala Ser Ser  
 355 360 365  
 Asn His Gly Cys Gln His Glu Cys Val Asn Thr Asp Asp Ser Tyr Ser  
 370 375 380  
 Cys His Cys Leu Lys Gly Phe Thr Leu Asn Pro Asp Lys Lys Thr Cys  
 385 390 395 400  
 Arg Arg Ile Asn Tyr Cys Ala Leu Asn Lys Pro Gly Cys Glu His Glu  
 405 410 415  
 Cys Val Asn Met Glu Glu Ser Tyr Tyr Cys Arg Cys His Arg Gly Tyr  
 420 425 430  
 Thr Leu Asp Pro Asn Gly Lys Thr Cys Ser Arg Val Asp His Cys Ala  
 435 440 445  
 Gln Gln Asp His Gly Cys Glu Gln Leu Cys Leu Asn Thr Glu Asp Ser  
 450 455 460  
 Phe Val Cys Gln Cys Ser Glu Gly Phe Leu Ile Asn Glu Asp Leu Lys  
 465 470 475 480  
 Thr Cys Ser Arg Val Asp Tyr Cys Leu Leu Ser Asp His Gly Cys Glu  
 485 490 495  
 Tyr Ser Cys Val Asn Met Asp Arg Ser Phe Ala Cys Gln Cys Pro Glu  
 500 505 510

Gly	His	Val	Leu	Arg	Ser	Asp	Gly	Lys	Thr	Cys	Ala	Lys	Leu	Asp	Ser		
		515					520					525					
Cys	Ala	Leu	Gly	Asp	His	Gly	Cys	Glu	His	Ser	Cys	Val	Ser	Ser	Glu		
	530					535					540						
Asp	Ser	Phe	Val	Cys	Gln	Cys	Phe	Glu	Gly	Tyr	Ile	Leu	Arg	Glu	Asp		
545					550					555					560		
Gly	Lys	Thr	Cys	Arg	Arg	Lys	Asp	Val	Cys	Gln	Ala	Ile	Asp	His	Gly		
				565					570					575			
Cys	Glu	His	Ile	Cys	Val	Asn	Ser	Asp	Asp	Ser	Tyr	Thr	Cys	Glu	Cys		
			580					585					590				
Leu	Val	Gly	Phe	Arg	Leu	Ala	Glu	Asp	Gly	Lys	Arg	Cys	Arg	Arg	Lys		
		595					600					605					
Asp	Val	Cys	Lys	Ser	Thr	His	His	Gly	Cys	Glu	His	Ile	Cys	Val	Asn		
	610					615					620						
Asn	Gly	Asn	Ser	Tyr	Ile	Cys	Lys	Cys	Ser	Glu	Gly	Phe	Val	Leu	Ala		
625					630					635					640		
Glu	Asp	Gly	Arg	Arg	Cys	Lys	Lys	Cys	Thr	Glu	Gly	Pro	Ile	Asp	Leu		
				645					650					655			
Val	Phe	Val	Ile	Asp	Gly	Ser	Lys	Ser	Leu	Gly	Glu	Glu	Asn	Phe	Glu		
			660					665					670				
Val	Val	Lys	Gln	Phe	Val	Thr	Gly	Ile	Ile	Asp	Ser	Leu	Thr	Ile	Ser		
		675					680						685				
Pro	Lys	Ala	Ala	Arg	Val	Gly	Leu	Leu	Gln	Tyr	Ser	Thr	Gln	Val	His		
	690					695					700						
Thr	Glu	Phe	Thr	Leu	Arg	Asn	Phe	Asn	Ser	Ala	Lys	Asp	Met	Lys	Lys		
705					710					715					720		
Ala	Val	Ala	His	Met	Lys	Tyr	Met	Gly	Lys	Gly	Ser	Met	Thr	Gly	Leu		
				725					730					735			
Ala	Leu	Lys	His	Met	Phe	Glu	Arg	Ser	Phe	Thr	Gln	Gly	Glu	Gly	Ala		
			740					745					750				
Arg	Pro	Phe	Ser	Thr	Arg	Val	Pro	Arg	Ala	Ala	Ile	Val	Phe	Thr	Asp		
		755					760					765					
Gly	Arg	Ala	Gln	Asp	Asp	Val	Ser	Glu	Trp	Ala	Ser	Lys	Ala	Lys	Ala		
	770					775					780						
Asn	Gly	Ile	Thr	Met	Tyr	Ala	Val	Gly	Val	Gly	Lys	Ala	Ile	Glu	Glu		
785					790					795					800		
Glu	Leu	Gln	Glu	Ile	Ala	Ser	Glu	Pro	Thr	Asn	Lys	His	Leu	Phe	Tyr		
				805					810					815			

Ala Glu Asp Phe Ser Thr Met Asp Glu Ile Ser Glu Lys Leu Lys Lys  
820 825 830

Gly Ile Cys Glu Ala Leu Glu Asp Ser Asp Gly Arg Gln Asp Ser Pro  
835 840 845

Ala Gly Glu Leu Pro Lys Thr Val Gln Gln Pro Thr Glu Ser Glu Pro  
850 855 860

Val Thr Ile Asn Ile Gln Asp Leu Leu Ser Cys Ser Asn Phe Ala Val  
865 870 875 880

Gln His Arg Tyr Leu Phe Glu Glu Asp Asn Leu Leu Arg Ser Thr Gln  
885 890 895

Lys Leu Ser His Ser Thr Lys Pro Ser Gly Ser Pro Leu Glu Glu Lys  
900 905 910

His Asp Gln Cys Lys Cys Glu Asn Leu Ile Met Phe Gln Asn Leu Ala  
915 920 925

Asn Glu Glu Val Arg Lys Leu Thr Gln Arg Leu Glu Glu Met Thr Gln  
930 935 940

Arg Met Glu Ala Leu Glu Asn Arg Leu Arg Tyr Arg  
945 950 955

<210> 75  
<211> 937  
<212> PRT  
<213> Homo sapiens

<400> 75  
Met Glu Lys Met Leu Ala Gly Cys Phe Leu Leu Ile Leu Gly Gln Ile  
1 5 10 15

Val Leu Leu Pro Ala Glu Ala Arg Glu Arg Ser Arg Gly Arg Ser Ile  
20 25 30

Ser Arg Gly Arg His Ala Arg Thr His Pro Gln Thr Ala Leu Leu Glu  
35 40 45

Ser Ser Cys Glu Asn Lys Arg Ala Asp Leu Val Phe Ile Ile Asp Ser  
50 55 60

Ser Arg Ser Val Asn Thr His Asp Tyr Ala Lys Val Lys Glu Phe Ile  
65 70 75 80

Val Asp Ile Leu Gln Phe Leu Asp Ile Gly Pro Asp Val Thr Arg Val  
85 90 95

Gly Leu Leu Gln Tyr Gly Ser Thr Val Lys Asn Glu Phe Ser Leu Lys  
100 105 110

Thr Phe Lys Arg Lys Ser Glu Val Glu Arg Ala Val Lys Arg Met Arg

115					120					125					
His	Leu	Ser	Thr	Gly	Thr	Met	Thr	Gly	Leu	Ala	Ile	Gln	Tyr	Ala	Leu
130						135					140				
Asn	Ile	Ala	Phe	Ser	Glu	Ala	Glu	Gly	Ala	Arg	Pro	Leu	Arg	Glu	Asn
145					150					155					160
Val	Pro	Arg	Val	Ile	Met	Ile	Val	Thr	Asp	Gly	Arg	Pro	Gln	Asp	Ser
				165					170					175	
Val	Ala	Glu	Val	Ala	Ala	Lys	Ala	Arg	Asp	Thr	Gly	Ile	Leu	Ile	Phe
				180					185					190	
Ala	Ile	Gly	Val	Gly	Gln	Val	Asp	Phe	Asn	Thr	Leu	Lys	Ser	Ile	Gly
		195					200					205			
Ser	Glu	Pro	His	Glu	Asp	His	Val	Phe	Leu	Val	Ala	Asn	Phe	Ser	Gln
	210					215					220				
Ile	Glu	Thr	Leu	Thr	Ser	Val	Phe	Gln	Lys	Lys	Leu	Cys	Thr	Ala	His
225					230					235					240
Met	Cys	Ser	Thr	Leu	Glu	His	Asn	Cys	Ala	His	Phe	Cys	Ile	Asn	Ile
				245					250					255	
Pro	Gly	Ser	Tyr	Val	Cys	Arg	Cys	Lys	Gln	Gly	Tyr	Ile	Leu	Asn	Ser
			260					265					270		
Asp	Gln	Thr	Thr	Cys	Arg	Ile	Gln	Asp	Leu	Cys	Ala	Met	Glu	Asp	His
		275					280					285			
Asn	Cys	Glu	Gln	Leu	Cys	Val	Asn	Val	Pro	Gly	Ser	Phe	Val	Cys	Gln
	290					295					300				
Cys	Tyr	Ser	Gly	Tyr	Ala	Leu	Ala	Glu	Asp	Gly	Lys	Arg	Cys	Val	Ala
305					310					315					320
Val	Asp	Tyr	Cys	Ala	Ser	Glu	Asn	His	Gly	Cys	Glu	His	Glu	Cys	Val
				325					330					335	
Asn	Ala	Asp	Gly	Ser	Tyr	Leu	Cys	Gln	Cys	His	Glu	Gly	Phe	Ala	Leu
			340					345					350		
Asn	Pro	Asp	Glu	Lys	Thr	Cys	Thr	Lys	Ile	Asp	Tyr	Cys	Ala	Ser	Ser
		355					360					365			
Asn	His	Gly	Cys	Gln	His	Glu	Cys	Val	Asn	Thr	Asp	Asp	Ser	Tyr	Ser
	370					375					380				
Cys	His	Cys	Leu	Lys	Gly	Phe	Thr	Leu	Asn	Pro	Asp	Lys	Lys	Thr	Cys
385					390					395					400
Arg	Arg	Ile	Asn	Tyr	Cys	Ala	Leu	Asn	Lys	Pro	Gly	Cys	Glu	His	Glu
				405					410					415	
Cys	Val	Asn	Met	Glu	Glu	Ser	Tyr	Tyr	Cys	Arg	Cys	His	Arg	Gly	Tyr

420					425					430					
Thr	Leu	Asp	Pro	Asn	Gly	Lys	Thr	Cys	Ser	Arg	Val	Asp	His	Cys	Ala
	435						440					445			
Gln	Gln	Asp	His	Gly	Cys	Glu	Gln	Leu	Cys	Leu	Asn	Thr	Glu	Asp	Ser
	450					455					460				
Phe	Val	Cys	Gln	Cys	Ser	Glu	Gly	Phe	Leu	Ile	Asn	Glu	Asp	Leu	Lys
465					470					475					480
Thr	Cys	Ser	Arg	Val	Asp	Tyr	Cys	Leu	Leu	Ser	Asp	His	Gly	Cys	Glu
				485					490					495	
Tyr	Ser	Cys	Val	Asn	Met	Asp	Arg	Ser	Phe	Ala	Cys	Gln	Cys	Pro	Glu
			500					505					510		
Gly	His	Val	Leu	Arg	Ser	Asp	Gly	Lys	Thr	Cys	Ala	Lys	Leu	Asp	Ser
		515					520						525		
Cys	Ala	Leu	Gly	Asp	His	Gly	Cys	Glu	His	Ser	Cys	Val	Ser	Ser	Glu
	530					535					540				
Asp	Ser	Phe	Val	Cys	Gln	Cys	Phe	Glu	Gly	Tyr	Ile	Leu	Arg	Glu	Asp
545					550					555					560
Gly	Lys	Thr	Cys	Arg	Arg	Lys	Asp	Val	Cys	Gln	Ala	Ile	Asp	His	Gly
				565					570					575	
Cys	Glu	His	Ile	Cys	Val	Asn	Ser	Asp	Asp	Ser	Tyr	Thr	Cys	Glu	Cys
			580					585					590		
Leu	Glu	Gly	Phe	Arg	Leu	Ala	Glu	Asp	Gly	Lys	Arg	Cys	Arg	Arg	Lys
		595					600					605			
Asp	Val	Cys	Lys	Ser	Thr	His	His	Gly	Cys	Glu	His	Ile	Cys	Val	Asn
	610					615					620				
Asn	Gly	Asn	Ser	Tyr	Ile	Cys	Lys	Cys	Ser	Glu	Gly	Phe	Val	Leu	Ala
625					630					635					640
Glu	Asp	Gly	Arg	Arg	Cys	Lys	Lys	Cys	Thr	Glu	Gly	Pro	Ile	Asp	Leu
				645					650					655	
Val	Phe	Val	Ile	Asp	Gly	Ser	Lys	Ser	Leu	Gly	Glu	Glu	Asn	Phe	Glu
			660					665					670		
Val	Val	Lys	Gln	Phe	Val	Thr	Gly	Ile	Ile	Asp	Ser	Leu	Thr	Ile	Ser
		675					680					685			
Pro	Lys	Ala	Ala	Arg	Val	Gly	Leu	Leu	Gln	Tyr	Ser	Thr	Gln	Val	His
	690					695					700				
Thr	Glu	Phe	Thr	Leu	Arg	Asn	Phe	Asn	Ser	Ala	Lys	Asp	Met	Lys	Lys
705					710					715					720
Ala	Val	Ala	His	Met	Lys	Tyr	Met	Gly	Lys	Gly	Ser	Met	Thr	Gly	Leu



Ser Ser Cys Glu Asn Lys Arg Ala Asp Leu Val Phe Ile Ile Asp Ser  
 50 55 60  
 Ser Arg Ser Val Asn Thr His Asp Tyr Ala Lys Val Lys Glu Phe Ile  
 65 70 75 80  
 Leu Asp Ile Leu Gln Phe Leu Asp Ile Gly Pro Asp Val Thr Arg Val  
 85 90 95  
 Gly Leu Leu Gln Tyr Gly Ser Thr Val Lys Asn Glu Phe Ser Leu Lys  
 100 105 110  
 Thr Phe Lys Arg Lys Ser Glu Val Glu Arg Ala Val Lys Arg Met Arg  
 115 120 125  
 His Leu Ser Thr Gly Thr Met Thr Gly Leu Ala Ile Gln Tyr Ala Leu  
 130 135 140  
 Asn Ile Ala Phe Ser Glu Ala Glu Gly Ala Arg Pro Leu Arg Glu Asn  
 145 150 155 160  
 Val Pro Arg Ile Ile Met Ile Val Thr Asp Gly Arg Pro Gln Asp Ser  
 165 170 175  
 Val Ala Glu Val Ala Ala Lys Ala Arg Asn Thr Gly Ile Leu Ile Phe  
 180 185 190  
 Ala Ile Gly Val Gly Gln Val Asp Leu Asn Thr Leu Lys Ala Ile Gly  
 195 200 205  
 Ser Glu Pro His Lys Asp His Val Phe Leu Val Ala Asn Phe Ser Gln  
 210 215 220  
 Ile Glu Ser Leu Thr Ser Val Phe Gln Asn Lys Leu Cys Thr Val His  
 225 230 235 240  
 Met Cys Ser Ile Leu Glu His Asn Cys Ala His Phe Cys Leu Asn Thr  
 245 250 255  
 Pro Gly Ser Tyr Ile Cys Lys Cys Lys Gln Gly Tyr Ile Leu Ser Thr  
 260 265 270  
 Asp Gln Lys Thr Cys Arg Ile Gln Asp Leu Cys Ala Thr Glu Asp His  
 275 280 285  
 Gly Cys Glu Gln Leu Cys Val Asn Met Leu Gly Ser Phe Val Cys Gln  
 290 295 300  
 Cys Tyr Ser Gly Tyr Thr Leu Ala Glu Asp Gly Lys Arg Cys Thr Ala  
 305 310 315 320  
 Val Asp Tyr Cys Ala Ser Glu Asn His Gly Cys Glu His Glu Cys Val  
 325 330 335  
 Asn Ala Glu Ser Ser Tyr Leu Cys Arg Cys His Glu Gly Phe Ala Leu  
 340 345 350



Asn	Ser	Asp	Lys	Lys	Thr	Cys	Ser	Lys	Ile	Asp	Tyr	Cys	Ala	Ser	Ser	355	360	365	
Asn	His	Gly	Cys	Gln	His	Glu	Cys	Val	Asn	Ala	Gln	Thr	Ser	Ala	Leu	370	375	380	
Cys	Arg	Cys	Leu	Lys	Gly	Phe	Met	Leu	Asn	Pro	Asp	Arg	Lys	Thr	Cys	385	390	395	400
Arg	Arg	Ile	Asn	Tyr	Cys	Ala	Leu	Asn	Lys	Pro	Gly	Cys	Glu	His	Glu	405	410	415	
Cys	Val	Asn	Thr	Glu	Glu	Gly	His	Tyr	Cys	Arg	Cys	Arg	Gln	Gly	Tyr	420	425	430	
Asn	Leu	Asp	Pro	Asn	Gly	Lys	Thr	Cys	Ser	Arg	Val	Asp	His	Cys	Ala	435	440	445	
Gln	Gln	Asp	His	Gly	Cys	Glu	Gln	Leu	Cys	Leu	Asn	Thr	Glu	Glu	Ser	450	455	460	
Phe	Val	Cys	Gln	Cys	Ser	Glu	Gly	Phe	Leu	Ile	Asn	Asp	Asp	Leu	Lys	465	470	475	480
Thr	Cys	Ser	Arg	Ala	Asp	Tyr	Cys	Leu	Leu	Ser	Asn	His	Gly	Cys	Glu	485	490	495	
Tyr	Ser	Cys	Val	Asn	Thr	Asp	Lys	Ser	Phe	Ala	Cys	Gln	Cys	Pro	Glu	500	505	510	
Gly	His	Val	Leu	Arg	Ser	Asp	Gly	Lys	Thr	Cys	Ala	Lys	Leu	Asp	Ser	515	520	525	
Cys	Ala	Leu	Gly	Asp	His	Gly	Cys	Glu	His	Ser	Cys	Val	Ser	Ser	Glu	530	535	540	
Asp	Ser	Phe	Val	Cys	Gln	Cys	Phe	Glu	Gly	Tyr	Ile	Leu	Arg	Asp	Asp	545	550	555	560
Gly	Lys	Thr	Cys	Arg	Arg	Lys	Asp	Val	Cys	Gln	Asp	Val	Asn	His	Gly	565	570	575	
Cys	Glu	His	Leu	Cys	Val	Asn	Ser	Gly	Glu	Ser	Tyr	Val	Cys	Lys	Cys	580	585	590	
Leu	Glu	Gly	Phe	Arg	Leu	Ala	Glu	Asp	Gly	Lys	Arg	Cys	Arg	Arg	Lys	595	600	605	
Asn	Val	Cys	Lys	Ser	Thr	Gln	His	Gly	Cys	Glu	His	Met	Cys	Val	Asn	610	615	620	
Asn	Gly	Asn	Ser	Tyr	Leu	Cys	Arg	Cys	Ser	Glu	Gly	Phe	Val	Leu	Ala	625	630	635	640
Glu	Asp	Gly	Lys	His	Cys	Lys	Arg	Cys	Thr	Glu	Gly	Pro	Ile	Asp	Leu	645	650	655	

Val	Phe	Val	Ile	Asp	Gly	Ser	Lys	Ser	Leu	Gly	Glu	Glu	Asn	Phe	Glu	660	665	670	
Thr	Val	Lys	His	Phe	Val	Thr	Gly	Ile	Ile	Asp	Ser	Leu	Ala	Val	Ser	675	680	685	
Pro	Lys	Ala	Ala	Arg	Val	Gly	Leu	Leu	Gln	Tyr	Ser	Thr	Gln	Val	Arg	690	695	700	
Thr	Glu	Phe	Thr	Leu	Arg	Gly	Phe	Ser	Ser	Ala	Lys	Glu	Met	Lys	Lys	705	710	715	720
Ala	Val	Ala	His	Met	Lys	Tyr	Met	Gly	Lys	Gly	Ser	Met	Thr	Gly	Leu	725	730	735	
Ala	Leu	Lys	His	Met	Phe	Glu	Arg	Ser	Phe	Thr	Gln	Val	Glu	Gly	Ala	740	745	750	
Arg	Pro	Pro	Ser	Thr	Gln	Val	Pro	Arg	Val	Ala	Ile	Val	Phe	Thr	Asp	755	760	765	
Gly	Arg	Ala	Gln	Asp	Asp	Val	Ser	Glu	Trp	Ala	Ser	Lys	Ala	Lys	Ala	770	775	780	
Asn	Gly	Ile	Thr	Met	Tyr	Ala	Val	Gly	Val	Gly	Lys	Ala	Ile	Glu	Glu	785	790	795	800
Glu	Leu	Gln	Glu	Ile	Ala	Ser	Glu	Pro	Ile	Asp	Lys	His	Leu	Phe	Tyr	805	810	815	
Ala	Glu	Asp	Phe	Ser	Thr	Met	Gly	Glu	Ile	Ser	Glu	Lys	Leu	Lys	Glu	820	825	830	
Gly	Ile	Cys	Glu	Ala	Leu	Glu	Asp	Ser	Gly	Gly	Arg	Gln	Asp	Ser	Ala	835	840	845	
Ala	Trp	Asp	Leu	Pro	Gln	Gln	Ala	His	Gln	Pro	Thr	Glu	Pro	Glu	Pro	850	855	860	
Val	Thr	Ile	Lys	Ile	Lys	Asp	Leu	Leu	Ser	Cys	Ser	Asn	Phe	Ala	Val	865	870	875	880
Gln	His	Arg	Phe	Leu	Phe	Glu	Glu	Asp	Asn	Leu	Ser	Arg	Ser	Thr	Gln	885	890	895	
Lys	Leu	Phe	His	Ser	Thr	Lys	Ser	Ser	Gly	Asn	Pro	Leu	Glu	Glu	Ser	900	905	910	
Gln	Asp	Gln	Cys	Lys	Cys	Glu	Asn	Leu	Ile	Leu	Phe	Gln	Asn	Val	Ala	915	920	925	
Asn	Glu	Glu	Val	Arg	Lys	Leu	Thr	Gln	Arg	Leu	Glu	Glu	Met	Thr	Gln	930	935	940	
Arg	Met	Glu	Ala	Leu	Glu	Asn	Arg	Leu	Lys	Tyr	Arg					945	950	955	

<210> 77  
 <211> 956  
 <212> PRT  
 <213> Mus musculus

<400> 77

Met	Glu	Lys	Met	Leu	Val	Gly	Cys	Leu	Leu	Met	Leu	Gly	Gln	Leu	Phe
1				5					10					15	
Leu	Val	Leu	Pro	Val	Asp	Gly	Arg	Glu	Arg	Pro	Gln	Ala	Arg	Phe	Pro
			20					25					30		
Ser	Arg	Gly	Arg	His	Val	Arg	Met	Tyr	Pro	Gln	Thr	Ala	Leu	Leu	Glu
		35					40					45			
Ser	Ser	Cys	Glu	Asn	Lys	Arg	Ala	Asp	Leu	Val	Phe	Ile	Ile	Asp	Ser
	50					55					60				
Ser	Arg	Ser	Val	Asn	Thr	Tyr	Asp	Tyr	Ala	Lys	Val	Lys	Glu	Phe	Ile
	65				70					75					80
Leu	Asp	Ile	Leu	Gln	Phe	Leu	Asp	Ile	Gly	Pro	Asp	Val	Thr	Arg	Val
				85					90					95	
Gly	Leu	Leu	Gln	Tyr	Gly	Ser	Thr	Val	Lys	Asn	Glu	Phe	Ser	Leu	Lys
			100					105					110		
Thr	Phe	Lys	Arg	Lys	Ser	Glu	Val	Glu	Arg	Ala	Val	Lys	Arg	Met	Arg
		115					120					125			
His	Leu	Ser	Thr	Gly	Thr	Met	Thr	Gly	Leu	Ala	Ile	Gln	Tyr	Ala	Leu
	130					135					140				
Asn	Ile	Ala	Phe	Ser	Glu	Ala	Glu	Gly	Ala	Arg	Pro	Leu	Arg	Glu	Asn
145					150				155					160	
Val	Pro	Arg	Ile	Ile	Met	Ile	Val	Thr	Asp	Gly	Arg	Pro	Gln	Asp	Ser
				165					170					175	
Val	Ala	Glu	Val	Ala	Ala	Lys	Ala	Arg	Asn	Thr	Gly	Ile	Leu	Ile	Phe
		180					185						190		
Ala	Ile	Gly	Val	Gly	Gln	Val	Asp	Leu	Asn	Thr	Leu	Lys	Ala	Ile	Gly
		195					200					205			
Ser	Glu	Pro	His	Lys	Asp	His	Val	Phe	Leu	Val	Ala	Asn	Phe	Ser	Gln
	210					215					220				
Ile	Glu	Ser	Leu	Thr	Ser	Val	Phe	Gln	Asn	Lys	Leu	Cys	Thr	Val	His
225					230					235				240	
Met	Cys	Ser	Val	Leu	Glu	His	Asn	Cys	Ala	His	Phe	Cys	Leu	Asn	Thr
				245					250					255	
Pro	Gly	Ser	Tyr	Ile	Cys	Lys	Cys	Lys	Gln	Gly	Tyr	Ile	Leu	Ser	Thr
			260					265					270		

Asp	Gln	Lys	Thr	Cys	Arg	Ile	Gln	Asp	Leu	Cys	Ala	Thr	Glu	Asp	His	275	280	285
Gly	Cys	Glu	Gln	Leu	Cys	Val	Asn	Met	Leu	Gly	Ser	Phe	Val	Cys	Gln	290	295	300
Cys	Tyr	Ser	Gly	Tyr	Thr	Leu	Ala	Glu	Asp	Gly	Lys	Arg	Cys	Thr	Ala	305	310	315
Met	Asp	Tyr	Cys	Ala	Ser	Glu	Asn	His	Gly	Cys	Glu	His	Glu	Cys	Val	325	330	335
Asn	Ala	Glu	Ser	Ser	Tyr	Leu	Cys	Arg	Cys	His	Glu	Gly	Phe	Ala	Leu	340	345	350
Asn	Ser	Asp	Lys	Lys	Thr	Cys	Ser	Lys	Ile	Asp	Tyr	Cys	Ala	Ser	Ser	355	360	365
Asn	His	Gly	Cys	Gln	His	Glu	Cys	Val	Asn	Ala	Gln	Thr	Ser	Ala	Leu	370	375	380
Cys	Arg	Cys	Leu	Lys	Gly	Phe	Met	Leu	Asn	Pro	Asp	Arg	Lys	Thr	Cys	385	390	395
Arg	Arg	Ile	Asn	Tyr	Cys	Ala	Leu	Asn	Lys	Pro	Gly	Cys	Glu	His	Glu	405	410	415
Cys	Val	Asn	Thr	Glu	Glu	Gly	His	Tyr	Cys	Arg	Cys	Arg	Gln	Gly	Tyr	420	425	430
Asn	Leu	Asp	Pro	Asn	Gly	Lys	Thr	Cys	Ser	Arg	Val	Asp	His	Cys	Ala	435	440	445
Gln	Gln	Asp	His	Gly	Cys	Glu	Gln	Leu	Cys	Leu	Asn	Thr	Glu	Glu	Ser	450	455	460
Phe	Val	Cys	Gln	Cys	Ser	Glu	Gly	Phe	Leu	Ile	Asn	Asp	Asp	Leu	Lys	465	470	475
Thr	Cys	Ser	Arg	Ala	Asp	Tyr	Cys	Leu	Leu	Ser	Asn	His	Gly	Cys	Glu	485	490	495
Tyr	Ser	Cys	Val	Asn	Thr	Asp	Lys	Ser	Phe	Ala	Cys	Gln	Cys	Pro	Glu	500	505	510
Gly	His	Val	Leu	Arg	Ser	Asp	Gly	Lys	Thr	Cys	Ala	Lys	Leu	Asp	Ser	515	520	525
Cys	Ala	Leu	Gly	Asp	His	Gly	Cys	Glu	His	Ser	Cys	Val	Ser	Ser	Glu	530	535	540
Asp	Ser	Phe	Val	Cys	Gln	Cys	Phe	Glu	Gly	Tyr	Ile	Leu	Arg	Asp	Asp	545	550	555
Gly	Lys	Thr	Cys	Arg	Arg	Lys	Asp	Val	Cys	Gln	Asp	Val	Asn	His	Gly	565	570	575

Cys	Glu	His	Leu	Cys	Val	Asn	Ser	Gly	Glu	Ser	Tyr	Val	Cys	Lys	Cys	
			580					585					590			
Leu	Glu	Gly	Phe	Arg	Leu	Ala	Glu	Asp	Gly	Lys	Arg	Cys	Arg	Arg	Lys	
		595					600					605				
Asn	Val	Cys	Lys	Ser	Thr	Gln	His	Gly	Cys	Glu	His	Met	Cys	Val	Asn	
	610					615					620					
Asn	Gly	Asn	Ser	Tyr	Leu	Cys	Arg	Cys	Ser	Glu	Gly	Phe	Val	Leu	Ala	
625					630					635					640	
Glu	Asp	Gly	Lys	His	Cys	Lys	Arg	Cys	Thr	Glu	Gly	Pro	Ile	Asp	Leu	
				645					650					655		
Val	Phe	Val	Ile	Asp	Gly	Ser	Lys	Ser	Leu	Gly	Glu	Glu	Asn	Phe	Glu	
			660					665					670			
Thr	Val	Lys	His	Phe	Val	Thr	Gly	Ile	Ile	Asp	Ser	Leu	Ala	Val	Ser	
		675					680					685				
Pro	Lys	Ala	Ala	Arg	Val	Gly	Leu	Leu	Gln	Tyr	Ser	Thr	Gln	Val	Arg	
	690					695					700					
Thr	Glu	Phe	Thr	Leu	Arg	Gly	Phe	Ser	Ser	Ala	Lys	Glu	Met	Lys	Lys	
705					710					715					720	
Ala	Val	Thr	His	Met	Lys	Tyr	Met	Gly	Lys	Gly	Ser	Met	Thr	Gly	Leu	
				725					730					735		
Ala	Leu	Lys	His	Met	Phe	Glu	Arg	Ser	Phe	Thr	Gln	Val	Glu	Gly	Ala	
			740					745					750			
Arg	Pro	Pro	Ser	Thr	Gln	Val	Pro	Arg	Val	Ala	Ile	Val	Phe	Thr	Asp	
		755					760					765				
Gly	Arg	Ala	Gln	Asp	Asp	Val	Ser	Glu	Trp	Ala	Ser	Lys	Ala	Lys	Ala	
	770					775					780					
Asn	Gly	Ile	Thr	Met	Tyr	Ala	Val	Gly	Val	Gly	Lys	Ala	Ile	Glu	Glu	
785					790					795					800	
Glu	Leu	Gln	Glu	Ile	Ala	Ser	Glu	Pro	Ile	Asp	Lys	His	Leu	Phe	Tyr	
				805					810					815		
Ala	Glu	Asp	Phe	Ser	Thr	Met	Gly	Glu	Ile	Ser	Glu	Lys	Leu	Lys	Glu	
			820					825					830			
Gly	Ile	Cys	Glu	Ala	Leu	Glu	Asp	Ser	Gly	Gly	Arg	Gln	Asp	Ser	Ala	
		835					840					845				
Ala	Trp	Asp	Leu	Pro	Gln	Gln	Ala	His	Gln	Pro	Thr	Glu	Pro	Glu	Pro	
	850					855					860					
Val	Thr	Ile	Lys	Ile	Lys	Asp	Leu	Leu	Ser	Cys	Ser	Asn	Phe	Ala	Val	
865					870					875					880	

Gln His Arg Phe Leu Phe Glu Glu Asp Asn Leu Ser Arg Ser Thr Gln  
885 890 895

Lys Leu Phe His Ser Thr Lys Ser Ser Gly Asn Pro Leu Glu Glu Ser  
900 905 910

Gln Asp Gln Cys Lys Cys Glu Asn Leu Ile Leu Phe Gln Asn Val Ala  
915 920 925

Asn Glu Glu Val Arg Lys Leu Thr Gln Arg Leu Glu Glu Met Thr Gln  
930 935 940

Arg Met Glu Ala Leu Glu Asn Arg Leu Lys Tyr Arg  
945 950 955

<210> 78  
<211> 200  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Von Willebrand  
Factor type A doman sequence

<400> 78  
Asp Ile Val Phe Leu Leu Asp Gly Ser Gly Ser Ile Gly Ser Gln Asn  
1 5 10 15

Phe Glu Arg Val Lys Asp Phe Val Glu Arg Val Val Glu Arg Leu Asp  
20 25 30

Val Gly Pro Arg Asp Lys Lys Glu Glu Asp Ala Val Arg Val Gly Leu  
35 40 45

Val Gln Tyr Ser Asp Asn Val Arg Thr Glu Ile Lys Phe Lys Leu Asn  
50 55 60

Asp Tyr Gln Asn Lys Asp Glu Val Leu Gln Ala Leu Gln Lys Ile Arg  
65 70 75 80

Tyr Glu Asp Tyr Tyr Gly Gly Gly Gly Thr Asn Thr Gly Ala Ala Leu  
85 90 95

Gln Tyr Val Val Arg Asn Leu Phe Thr Glu Ala Ser Gly Ser Arg Ile  
100 105 110

Glu Pro Val Ala Glu Glu Gly Ala Pro Lys Val Leu Val Val Leu Thr  
115 120 125

Asp Gly Arg Ser Gln Asp Asp Pro Ser Pro Thr Ile Asp Ile Arg Asp  
130 135 140

Val Leu Asn Glu Leu Lys Lys Glu Ala Gly Val Glu Val Phe Ala Ile  
145 150 155 160

Gly Val Gly Asn Ala Asp Asn Asn Asn Leu Glu Glu Leu Arg Glu Ile  
165 170 175

Ala Ser Lys Pro Asp Asp His Val Phe Lys Val Ser Asp Phe Glu Ala  
180 185 190

Leu Asp Thr Leu Gln Glu Leu Leu  
195 200

<210> 79

<211> 176

<212> PRT

<213> Homo sapiens

<400> 79

Asp Leu Val Phe Ile Ile Asp Ser Ser Arg Ser Val Asn Thr His Asp  
1 5 10 15

Tyr Ala Lys Val Lys Glu Phe Ile Val Asp Ile Leu Gln Phe Leu Asp  
20 25 30

Ile Gly Pro Asp Val Thr Arg Val Gly Leu Leu Gln Tyr Gly Ser Thr  
35 40 45

Val Lys Asn Glu Phe Ser Leu Lys Thr Phe Lys Arg Lys Ser Glu Val  
50 55 60

Glu Arg Ala Val Lys Arg Met Arg His Leu Ser Thr Gly Thr Met Thr  
65 70 75 80

Gly Leu Ala Ile Gln Tyr Ala Leu Asn Ile Ala Phe Ser Glu Ala Glu  
85 90 95

Gly Ala Arg Pro Leu Arg Glu Asn Val Pro Arg Val Ile Met Ile Val  
100 105 110

Thr Asp Gly Arg Pro Gln Asp Ser Val Ala Glu Val Ala Ala Lys Ala  
115 120 125

Arg Asp Thr Gly Ile Leu Ile Phe Ala Ile Gly Val Gly Gln Val Asp  
130 135 140

Phe Asn Thr Leu Lys Ser Ile Gly Ser Glu Pro His Glu Asp His Val  
145 150 155 160

Phe Leu Val Ala Asn Phe Ser Gln Ile Glu Thr Leu Thr Ser Val Phe  
165 170 175

<210> 80

<211> 200

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Von Willebrand  
Factor type A domain sequence

<400> 80

Asp Ile Val Phe Leu Leu Asp Gly Ser Gly Ser Ile Gly Ser Gln Asn  
1 5 10 15  
Phe Glu Arg Val Lys Asp Phe Val Glu Arg Val Val Glu Arg Leu Asp  
20 25 30  
Val Gly Pro Arg Asp Lys Lys Glu Glu Asp Ala Val Arg Val Gly Leu  
35 40 45  
Val Gln Tyr Ser Asp Asn Val Arg Thr Glu Ile Lys Phe Lys Leu Asn  
50 55 60  
Asp Tyr Gln Asn Lys Asp Glu Val Leu Gln Ala Leu Gln Lys Ile Arg  
65 70 75 80  
Tyr Glu Asp Tyr Tyr Gly Gly Gly Gly Thr Asn Thr Gly Ala Ala Leu  
85 90 95  
Gln Tyr Val Val Arg Asn Leu Phe Thr Glu Ala Ser Gly Ser Arg Ile  
100 105 110  
Glu Pro Val Ala Glu Glu Gly Ala Pro Lys Val Leu Val Val Leu Thr  
115 120 125  
Asp Gly Arg Ser Gln Asp Asp Pro Ser Pro Thr Ile Asp Ile Arg Asp  
130 135 140  
Val Leu Asn Glu Leu Lys Lys Glu Ala Gly Val Glu Val Phe Ala Ile  
145 150 155 160  
Gly Val Gly Asn Ala Asp Asn Asn Asn Leu Glu Glu Leu Arg Glu Ile  
165 170 175  
Ala Ser Lys Pro Asp Asp His Val Phe Lys Val Ser Asp Phe Glu Ala  
180 185 190  
Leu Asp Thr Leu Gln Glu Leu Leu  
195 200

<210> 81

<211> 176

<212> PRT

<213> Homo sapiens

<400> 81

Asp Leu Val Phe Val Ile Asp Gly Ser Lys Ser Leu Gly Glu Glu Asn  
1 5 10 15  
Phe Glu Val Val Lys Gln Phe Val Thr Gly Ile Ile Asp Ser Leu Thr  
20 25 30



Ile Ser Pro Lys Ala Ala Arg Val Gly Leu Leu Gln Tyr Ser Thr Gln  
           35                          40                          45  
 Val His Thr Glu Phe Thr Leu Arg Asn Phe Asn Ser Ala Lys Asp Met  
           50                          55                          60  
 Lys Lys Ala Val Ala His Met Lys Tyr Met Gly Lys Gly Ser Met Thr  
           65                          70                          75                          80  
 Gly Leu Ala Leu Lys His Met Phe Glu Arg Ser Phe Thr Gln Gly Glu  
                           85                          90                          95  
 Gly Ala Arg Pro Phe Ser Thr Arg Val Pro Arg Ala Ala Ile Val Phe  
                           100                          105                          110  
 Thr Asp Gly Arg Ala Gln Asp Asp Val Ser Glu Trp Ala Ser Lys Ala  
           115                          120                          125  
 Lys Ala Asn Gly Ile Thr Met Tyr Ala Val Gly Val Gly Lys Ala Ile  
           130                          135                          140  
 Glu Glu Glu Leu Gln Glu Ile Ala Ser Glu Pro Thr Asn Lys His Leu  
           145                          150                          155                          160  
 Phe Tyr Ala Glu Asp Phe Ser Thr Met Asp Glu Ile Ser Glu Lys Leu  
                           165                          170                          175

<210> 82

<211> 45

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: EGF domain  
sequence

<400> 82

Cys Ala Pro Asn Asn Pro Cys Ser Asn Gly Gly Thr Cys Val Asn Thr  
           1                          5                          10                          15

Pro Gly Gly Ser Ser Asp Asn Phe Gly Gly Tyr Thr Cys Glu Cys Pro  
                           20                          25                          30

Pro Gly Asp Tyr Tyr Leu Ser Tyr Thr Gly Lys Arg Cys  
           35                          40                          45

<210> 83

<211> 36

<212> PRT

<213> Homo sapiens

<400> 83

Cys Ser Thr Leu Glu His Asn Cys Ala His Phe Cys Ile Asn Ile Pro  
1 5 10 15

Gly Ser Tyr Val Cys Arg Cys Lys Gln Gly Tyr Ile Leu Asn Ser Asp  
20 25 30

Gln Thr Thr Cys  
35

<210> 84

<211> 45

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: EGF domain  
sequence

<400> 84

Cys Ala Pro Asn Asn Pro Cys Ser Asn Gly Gly Thr Cys Val Asn Thr  
1 5 10 15

Pro Gly Gly Ser Ser Asp Asn Phe Gly Gly Tyr Thr Cys Glu Cys Pro  
20 25 30

Pro Gly Asp Tyr Tyr Leu Ser Tyr Thr Gly Lys Arg Cys  
35 40 45

<210> 85

<211> 36

<212> PRT

<213> Homo sapiens

<400> 85

Cys Ala Met Glu Asp His Asn Cys Glu Gln Leu Cys Val Asn Val Pro  
1 5 10 15

Gly Ser Phe Val Cys Gln Cys Tyr Ser Gly Tyr Ala Leu Ala Glu Asp  
20 25 30

Gly Lys Arg Cys  
35

<210> 86

<211> 45

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: EGF domain  
sequence

<400> 86

Cys Ala Pro Asn Asn Pro Cys Ser Asn Gly Gly Thr Cys Val Asn Thr  
 1 5 10 15  
 Pro Gly Gly Ser Ser Asp Asn Phe Gly Gly Tyr Thr Cys Glu Cys Pro  
 20 25 30  
 Pro Gly Asp Tyr Tyr Leu Ser Tyr Thr Gly Lys Arg Cys  
 35 40 45

<210> 87  
 <211> 36  
 <212> PRT  
 <213> Homo sapiens

<400> 87  
 Cys Ala Ser Glu Asn His Gly Cys Glu His Glu Cys Val Asn Ala Asp  
 1 5 10 15  
 Gly Ser Tyr Leu Cys Gln Cys His Glu Gly Phe Ala Leu Asn Pro Asp  
 20 25 30  
 Glu Lys Thr Cys  
 35

<210> 88  
 <211> 45  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: EGF domain  
 sequence

<400> 88  
 Cys Ala Pro Asn Asn Pro Cys Ser Asn Gly Gly Thr Cys Val Asn Thr  
 1 5 10 15  
 Pro Gly Gly Ser Ser Asp Asn Phe Gly Gly Tyr Thr Cys Glu Cys Pro  
 20 25 30  
 Pro Gly Asp Tyr Tyr Leu Ser Tyr Thr Gly Lys Arg Cys  
 35 40 45

<210> 89  
 <211> 36  
 <212> PRT  
 <213> Homo sapiens

<400> 89  
 Cys Ala Ser Ser Asn His Gly Cys Gln Tyr Glu Cys Val Asn Thr Asp  
 1 5 10 15  
 Asp Ser Tyr Ser Cys His Cys Leu Lys Gly Phe Thr Leu Asn Pro Asp  
 20 25 30

Lys Lys Thr Cys  
35

<210> 90  
<211> 45  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: EGF domain  
sequence

<400> 90  
Cys Ala Pro Asn Asn Pro Cys Ser Asn Gly Gly Thr Cys Val Asn Thr  
1 5 10 15  
Pro Gly Gly Ser Ser Asp Asn Phe Gly Gly Tyr Thr Cys Glu Cys Pro  
20 25 30  
Pro Gly Asp Tyr Tyr Leu Ser Tyr Thr Gly Lys Arg Cys  
35 40 45

<210> 91  
<211> 81  
<212> PRT  
<213> Homo sapiens

<400> 91  
Cys Ala Leu Asn Lys Pro Gly Cys Glu Cys Ala Pro Asn Asn Pro Cys  
1 5 10 15  
Ser Asn Gly Gly Thr Cys Val Asn Thr Pro Gly Gly Ser Ser Asp Asn  
20 25 30  
Phe Gly Gly Tyr Thr Cys Glu Cys Pro Pro Gly Asp Tyr Tyr Leu Ser  
35 40 45  
Tyr Thr Gly Lys Arg Cys His Glu Cys Val Asn Met Glu Glu Ser Tyr  
50 55 60  
Tyr Cys Arg Cys His Arg Gly Tyr Thr Leu Asp Pro Asn Gly Lys Pro  
65 70 75 80  
Cys

<210> 92  
<211> 81  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: EGF domain

sequence

<400> 92

Cys Ala Leu Asn Lys Pro Gly Cys Glu Cys Ala Pro Asn Asn Pro Cys  
 1 5 10 15  
 Ser Asn Gly Gly Thr Cys Val Asn Thr Pro Gly Gly Ser Ser Asp Asn  
 20 25 30  
 Phe Gly Gly Tyr Thr Cys Glu Cys Pro Pro Gly Asp Tyr Tyr Leu Ser  
 35 40 45  
 Tyr Thr Gly Lys Arg Cys His Glu Cys Val Asn Met Glu Glu Ser Tyr  
 50 55 60  
 Tyr Cys Arg Cys His Arg Gly Tyr Thr Leu Asp Pro Asn Gly Lys Pro  
 65 70 75 80

Cys

<210> 93

<211> 36

<212> PRT

<213> Homo sapiens

<400> 93

Cys Ala Gln Gln Asp His Gly Cys Glu Gln Leu Cys Leu Asn Thr Glu  
 1 5 10 15  
 Asp Ser Phe Val Cys Gln Cys Ser Glu Gly Phe Leu Ile Asn Glu Asp  
 20 25 30  
 Leu Lys Thr Cys  
 35

<210> 94

<211> 45

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: EGF domain  
 sequence

<400> 94

Cys Ala Pro Asn Asn Pro Cys Ser Asn Gly Gly Thr Cys Val Asn Thr  
 1 5 10 15  
 Pro Gly Gly Ser Ser Asp Asn Phe Gly Gly Tyr Thr Cys Glu Cys Pro  
 20 25 30  
 Pro Gly Asp Tyr Tyr Leu Ser Tyr Thr Gly Lys Arg Cys  
 35 40 45

<210> 95  
<211> 36  
<212> PRT  
<213> Homo sapiens

<400> 95  
Cys Leu Leu Ser Asp His Gly Cys Glu Tyr Ser Cys Val Asn Met Asp  
1 5 10 15  
Arg Ser Phe Ala Cys Gln Cys Pro Glu Gly His Val Leu Arg Ser Asp  
20 25 30  
Gly Lys Thr Cys  
35

<210> 96  
<211> 45  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: EGF domain  
sequence

<400> 96  
Cys Ala Pro Asn Asn Pro Cys Ser Asn Gly Gly Thr Cys Val Asn Thr  
1 5 10 15  
Pro Gly Gly Ser Ser Asp Asn Phe Gly Gly Tyr Thr Cys Glu Cys Pro  
20 25 30  
Pro Gly Asp Tyr Tyr Leu Ser Tyr Thr Gly Lys Arg Cys  
35 40 45

<210> 97  
<211> 36  
<212> PRT  
<213> Homo sapiens

<400> 97  
Cys Ala Leu Gly Asp His Gly Cys Glu His Ser Cys Val Ser Ser Glu  
1 5 10 15  
Asp Ser Phe Val Cys Gln Cys Phe Glu Gly Tyr Ile Leu Arg Glu Asp  
20 25 30  
Gly Lys Thr Cys  
35

<210> 98  
<211> 45  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: EGF domain  
sequence

<400> 98

Cys Ala Pro Asn Asn Pro Cys Ser Asn Gly Gly Thr Cys Val Asn Thr  
1 5 10 15

Pro Gly Gly Ser Ser Asp Asn Phe Gly Gly Tyr Thr Cys Glu Cys Pro  
20 25 30

Pro Gly Asp Tyr Tyr Leu Ser Tyr Thr Gly Lys Arg Cys  
35 40 45

<210> 99

<211> 36

<212> PRT

<213> Homo sapiens

<400> 99

Cys Gln Ala Ile Asp His Gly Cys Glu His Ile Cys Val Asn Ser Asp  
1 5 10 15

Asp Ser Tyr Thr Cys Glu Cys Leu Glu Gly Phe Arg Leu Thr Glu Asp  
20 25 30

Gly Lys Arg Cys  
35

<210> 100

<211> 45

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: EGF domain  
sequence

<400> 100

Cys Ala Pro Asn Asn Pro Cys Ser Asn Gly Gly Thr Cys Val Asn Thr  
1 5 10 15

Pro Gly Gly Ser Ser Asp Asn Phe Gly Gly Tyr Thr Cys Glu Cys Pro  
20 25 30

Pro Gly Asp Tyr Tyr Leu Ser Tyr Thr Gly Lys Arg Cys  
35 40 45

<210> 101

<211> 36

<212> PRT

<213> Homo sapiens

<400> 101

Cys Lys Ser Thr His His Gly Cys Glu His Ile Cys Val Asn Asn Gly  
1 5 10 15

Asn Ser Tyr Ile Cys Lys Cys Ser Glu Gly Phe Val Leu Ala Glu Asp  
20 25 30

Gly Arg Arg Cys  
35

<210> 102

<211> 464

<212> PRT

<213> Rattus norvegicus

<400> 102

Met Val Leu Ala Phe Trp Leu Ala Phe Phe Thr Tyr Thr Trp Ile Thr  
1 5 10 15

Leu Met Leu Asp Ala Ser Ala Val Lys Glu Pro His Gln Gln Cys Leu  
20 25 30

Ser Ser Pro Lys Gln Thr Arg Ile Arg Glu Thr Arg Met Arg Lys Asp  
35 40 45

Asp Leu Thr Lys Val Trp Pro Leu Lys Arg Glu Gln Leu Leu His Ile  
50 55 60

Glu Asp His Asp Phe Ser Thr Arg Pro Gly Phe Gly Gly Ser Pro Val  
65 70 75 80

Pro Val Gly Ile Asp Val Gln Val Glu Ser Ile Asp Ser Ile Ser Glu  
85 90 95

Val Asn Met Asp Phe Thr Met Thr Phe Tyr Leu Arg His Tyr Trp Lys  
100 105 110

Asp Glu Arg Leu Ser Phe Pro Ser Thr Thr Asn Lys Ser Met Thr Phe  
115 120 125

Asp Arg Arg Leu Ile Gln Lys Ile Trp Val Pro Asp Ile Phe Phe Val  
130 135 140

His Ser Lys Arg Ser Phe Ile His Asp Thr Thr Val Glu Asn Ile Met  
145 150 155 160

Leu Arg Val His Pro Asp Gly Asn Val Leu Phe Ser Leu Arg Ile Thr  
165 170 175

Val Ser Ala Met Cys Phe Met Asp Phe Ser Arg Phe Pro Leu Asp Thr  
180 185 190

Gln Asn Cys Ser Leu Glu Leu Glu Ser Tyr Ala Tyr Asn Glu Glu Asp  
195 200 205

Leu Met Leu Tyr Trp Lys His Gly Asn Lys Ser Leu Asn Thr Glu Glu



210	215	220
His Ile Ser Leu Ser Gln Phe Phe Ile Glu Glu Phe Ser Ala Ser Ser		
225	230	235 240
Gly Leu Ala Phe Tyr Ser Ser Thr Gly Trp Tyr Tyr Arg Leu Phe Ile		
	245	250 255
Asn Phe Val Leu Arg Arg His Ile Phe Phe Phe Val Leu Gln Thr Tyr		
	260	265 270
Phe Pro Ala Met Leu Met Val Met Leu Ser Trp Val Ser Phe Trp Ile		
	275	280 285
Asp Arg Arg Ala Val Pro Ala Arg Val Ser Leu Gly Ile Thr Thr Val		
	290	295 300
Leu Thr Met Ser Thr Ile Val Thr Gly Val Ser Ala Ser Met Pro Gln		
305	310	315 320
Val Ser Tyr Val Lys Ala Val Asp Val Tyr Met Trp Val Ser Ser Leu		
	325	330 335
Phe Val Phe Leu Ser Val Ile Glu Tyr Ala Ala Val Asn Tyr Leu Thr		
	340	345 350
Thr Val Glu Glu Trp Lys Gln Leu Asn Arg Arg Gly Lys Ile Ser Gly		
	355	360 365
Met Tyr Asn Ile Asp Ala Val Gln Ala Met Ala Phe Asp Gly Cys Tyr		
	370	375 380
His Asp Gly Glu Thr Asp Val Asp Gln Thr Ser Phe Phe Leu His Ser		
385	390	395 400
Glu Glu Asp Ser Met Arg Thr Lys Phe Thr Gly Ser Pro Cys Ala Asp		
	405	410 415
Ser Ser Gln Ile Lys Arg Lys Ser Leu Gly Gly Asn Val Gly Arg Ile		
	420	425 430
Ile Leu Glu Asn Asn His Val Ile Asp Thr Tyr Ser Arg Ile Val Phe		
	435	440 445
Pro Val Val Tyr Ile Ile Phe Asn Leu Phe Tyr Trp Gly Ile Tyr Val		
	450	455 460

<210> 103  
 <211> 470  
 <212> PRT  
 <213> Morone americana

<400> 103

Met	Arg	Val	Val	Leu	Leu	Ala	Leu	Arg	Leu	Met	Cys	Leu	Ala	Trp	Leu	1	5	10	15
Trp	Pro	Val	Thr	Gln	Leu	Asn	Ser	Ser	Thr	Asn	Lys	Arg	Arg	His	Lys	20	25	30	
Glu	Leu	Tyr	Ile	Gly	Glu	Asn	Thr	Lys	Gln	Lys	His	Gly	Gly	Arg	Val	35	40	45	
Asp	Leu	Lys	Leu	Lys	Lys	Val	Asp	Ser	Thr	Lys	Ser	Met	Leu	Ile	Lys	50	55	60	
Ser	Glu	Gln	Leu	Leu	Arg	Ile	Glu	Asp	His	Asp	Phe	Ala	Met	Arg	Pro	65	70	75	80
Gly	Phe	Gly	Gly	Ser	Ala	Ile	Pro	Val	Gly	Ile	Asp	Val	Gln	Val	Glu	85	90	95	
Ser	Ile	Asp	Ser	Ile	Ser	Glu	Val	Asn	Met	Asp	Phe	Thr	Met	Thr	Leu	100	105	110	
Tyr	Leu	Arg	His	Tyr	Trp	Gln	Asp	Asp	Arg	Pro	Ala	Phe	Pro	Ser	Ser	115	120	125	
Ser	Asn	Lys	Ser	Arg	Thr	Phe	Asp	Ala	Arg	Leu	Val	Lys	Ile	Trp	Val	130	135	140	
Pro	Asp	Val	Phe	Phe	Val	His	Ser	Lys	Arg	Ser	Phe	Ile	His	Asp	Thr	145	150	155	160
Thr	Met	Glu	Asn	Ile	Met	Leu	Arg	Val	Tyr	Pro	Asp	Gly	Asn	Ile	Leu	165	170	175	
Tyr	Ser	Val	Arg	Ile	Thr	Val	Thr	Ala	Leu	Cys	Ser	Met	Asp	Phe	Ser	180	185	190	
Ser	Phe	Pro	Leu	Asp	Thr	Gln	Asn	Cys	Ser	Leu	Glu	Leu	Glu	Ser	Tyr	195	200	205	
Ala	Tyr	Ala	Tyr	Asn	Glu	Asn	Asp	Leu	Cys	Ser	Thr	Gly	Arg	Thr	Gly	210	215	220	
Thr	Ile	Pro	Leu	Arg	Thr	Asp	Glu	Ile	Val	Leu	Ser	Gln	Phe	Phe	Val	225	230	235	240
Glu	Asp	Phe	Gln	Pro	Ser	Phe	Gly	Leu	Ala	Phe	Tyr	Ser	Ser	Thr	Gly	245	250	255	
Trp	Tyr	Asn	Arg	Leu	Tyr	Ile	Asn	Phe	Ile	Leu	Arg	Arg	His	Ile	Phe	260	265	270	
Phe	Phe	Met	Leu	Gln	Thr	Tyr	Phe	Pro	Thr	Met	Leu	Met	Val	Met	Leu	275	280	285	
Ser	Trp	Val	Ser	Phe	Trp	Ile	Asp	Arg	Arg	Ala	Val	Pro	Ala	Arg	Val	290	295	300	

Ser Leu Gly Ile Thr Thr Val Leu Thr Met Ser Thr Ile Ile Thr Gly  
 305 310 315 320  
 Val Ser Ala Ser Met Pro Gln Val Ser Tyr Val Lys Ala Val Asp Ile  
 325 330 335  
 Tyr Leu Trp Ala Ser Phe Leu Phe Val Phe Leu Ser Val Ile Glu Tyr  
 340 345 350  
 Ala Ala Val Asn Tyr Phe Thr Thr Val Glu Glu Met Lys Lys Leu Lys  
 355 360 365  
 Ser Ala Lys Ile Pro Asn Tyr Asn Ala Ser Gln Ala Met Ala Phe Asp  
 370 375 380  
 Gly Cys Phe His Asp Asn Glu Ile Asp Leu Thr Ser Phe Pro Glu Val  
 385 390 395 400  
 Ser Ser Thr Pro Asn Thr Glu Arg Asn Thr Gln Ser Arg Asn Ser Asn  
 405 410 415  
 Ala Ser Ala Pro Thr Glu Gly Thr Arg Leu Arg Arg Lys His Pro Leu  
 420 425 430  
 Arg Gln Asn Leu Ser Phe Ile Met Ser Asn Ser Tyr Met Ile Asp Ser  
 435 440 445  
 Tyr Ser Arg Val Ile Phe Pro Leu Ala Tyr Leu Leu Phe Asn Ile Ile  
 450 455 460  
 Tyr Trp Ser Met Tyr Ala  
 465 470

<210> 104  
 <211> 473  
 <212> PRT  
 <213> Homo sapiens

<400> 104  
 Met Arg Phe Gly Ile Phe Leu Leu Trp Trp Gly Trp Val Leu Ala Thr  
 1 5 10 15  
 Glu Ser Arg Met His Trp Pro Gly Arg Glu Val His Glu Met Ser Lys  
 20 25 30  
 Lys Gly Arg Pro Gln Arg Gln Arg Arg Glu Val His Glu Asp Ala His  
 35 40 45  
 Lys Gln Val Ser Pro Ile Leu Arg Arg Ser Pro Asp Ile Thr Lys Ser  
 50 55 60  
 Pro Leu Thr Lys Ser Glu Gln Leu Leu Arg Ile Asp Asp His Asp Phe  
 65 70 75 80  
 Ser Met Arg Pro Gly Phe Gly Gly Pro Ala Ile Pro Val Gly Val Asp  
 85 90 95

Val Gln Val Glu Ser Leu Asp Ser Ile Ser Glu Val Asp Met Asp Phe  
 100 105 110  
 Thr Met Thr Leu Tyr Leu Arg His Tyr Trp Lys Asp Glu Arg Leu Ser  
 115 120 125  
 Phe Pro Ser Thr Asn Asn Leu Ser Met Thr Phe Asp Gly Arg Leu Val  
 130 135 140  
 Lys Lys Ile Trp Val Pro Asp Met Phe Phe Val His Ser Lys Arg Ser  
 145 150 155 160  
 Phe Ile His Asp Thr Thr Thr Asp Asn Val Met Leu Arg Val Gln Pro  
 165 170 175  
 Asp Gly Lys Val Leu Tyr Ser Leu Arg Val Thr Val Thr Ala Met Cys  
 180 185 190  
 Asn Met Asp Phe Ser Arg Phe Pro Leu Asp Thr Gln Thr Cys Ser Leu  
 195 200 205  
 Glu Ile Glu Ser Tyr Ala Tyr Thr Glu Asp Asp Leu Met Leu Tyr Trp  
 210 215 220  
 Lys Lys Gly Asn Asp Ser Leu Lys Thr Asp Glu Arg Ile Ser Leu Ser  
 225 230 235 240  
 Gln Phe Leu Ile Gln Glu Phe His Thr Thr Thr Lys Leu Ala Phe Tyr  
 245 250 255  
 Ser Ser Thr Gly Trp Tyr Asn Arg Leu Tyr Ile Asn Phe Thr Leu Arg  
 260 265 270  
 Arg His Ile Phe Phe Phe Leu Leu Gln Thr Tyr Phe Pro Ala Thr Leu  
 275 280 285  
 Met Val Met Leu Ser Trp Val Ser Phe Trp Ile Asp Arg Arg Ala Val  
 290 295 300  
 Pro Ala Arg Val Pro Leu Gly Ile Thr Thr Val Leu Thr Met Ser Thr  
 305 310 315 320  
 Ile Ile Thr Gly Val Asn Ala Ser Met Pro Arg Val Ser Tyr Ile Lys  
 325 330 335  
 Ala Val Asp Ile Tyr Leu Trp Val Ser Phe Val Phe Val Phe Leu Ser  
 340 345 350  
 Val Leu Glu Tyr Ala Ala Val Asn Tyr Leu Thr Thr Val Gln Glu Arg  
 355 360 365  
 Lys Glu Gln Lys Leu Arg Glu Lys Leu Pro Cys Thr Ser Gly Leu Pro  
 370 375 380  
 Pro Pro Arg Thr Ala Met Leu Asp Gly Asn Tyr Ser Asp Gly Glu Val  
 385 390 395 400

Asn Asp Leu Asp Asn Tyr Met Pro Glu Asn Gly Glu Lys Pro Asp Arg  
 405 410 415  
 Met Met Val Gln Leu Thr Leu Ala Ser Glu Arg Ser Ser Pro Gln Arg  
 420 425 430  
 Lys Ser Gln Arg Ser Ser Tyr Val Ser Met Arg Ile Asp Thr His Ala  
 435 440 445  
 Ile Asp Lys Tyr Ser Arg Ile Ile Phe Pro Ala Ala Tyr Ile Leu Phe  
 450 455 460  
 Asn Leu Ile Tyr Trp Ser Ile Phe Ser  
 465 470

<210> 105  
 <211> 474  
 <212> PRT  
 <213> Rattus norvegicus

<400> 105  
 Met Lys Phe Gly Ile Phe Leu Leu Trp Trp Gly Trp Val Leu Ala Ala  
 1 5 10 15  
 Glu Ser Thr Val His Trp Pro Gly Arg Glu Val His Glu Pro Ser Lys  
 20 25 30  
 Lys Gly Ser Arg Pro Gln Arg Gln Arg Arg Gly Ala His Asp Asp Ala  
 35 40 45  
 His Lys Gln Gly Ser Pro Ile Leu Lys Arg Ser Ser Asp Ile Thr Lys  
 50 55 60  
 Ser Pro Leu Thr Lys Ser Glu Gln Leu Leu Arg Ile Asp Asp His Asp  
 65 70 75 80  
 Phe Ser Met Arg Pro Gly Phe Gly Gly Pro Ala Ile Pro Val Gly Val  
 85 90 95  
 Asp Val Gln Val Glu Ser Leu Asp Ser Ile Ser Glu Val Asp Met Asp  
 100 105 110  
 Phe Thr Met Thr Leu Tyr Leu Arg His Tyr Trp Lys Asp Glu Arg Leu  
 115 120 125  
 Ser Phe Pro Ser Thr Asn Asn Leu Ser Met Thr Phe Asp Gly Arg Leu  
 130 135 140  
 Val Lys Lys Ile Trp Val Pro Asp Met Phe Phe Val His Ser Lys Arg  
 145 150 155 160  
 Ser Phe Ile His Asp Thr Thr Thr Asp Asn Val Met Leu Arg Val Gln  
 165 170 175  
 Pro Asp Gly Lys Val Leu Tyr Ser Leu Arg Val Thr Val Thr Ala Met

	180		185		190										
Cys	Asn	Met	Asp	Phe	Ser	Arg	Phe	Pro	Leu	Asp	Thr	Gln	Thr	Cys	Ser
	195						200					205			
Leu	Glu	Ile	Glu	Ser	Tyr	Ala	Tyr	Thr	Glu	Asp	Asp	Leu	Met	Leu	Tyr
	210					215					220				
Trp	Lys	Lys	Gly	Asn	Asp	Ser	Leu	Lys	Thr	Asp	Glu	Arg	Ile	Ser	Leu
225				230						235					240
Ser	Gln	Phe	Leu	Ile	Gln	Glu	Phe	His	Thr	Thr	Thr	Lys	Leu	Ala	Phe
			245						250					255	
Tyr	Ser	Ser	Thr	Gly	Trp	Tyr	Asn	Arg	Leu	Tyr	Ile	Asn	Phe	Thr	Leu
			260					265					270		
Arg	Arg	His	Ile	Phe	Phe	Phe	Leu	Leu	Gln	Thr	Tyr	Phe	Pro	Ala	Thr
		275					280					285			
Leu	Met	Val	Met	Leu	Ser	Trp	Val	Ser	Phe	Trp	Ile	Asp	Arg	Arg	Ala
	290					295					300				
Val	Pro	Ala	Arg	Val	Pro	Leu	Gly	Ile	Thr	Thr	Val	Leu	Thr	Met	Ser
305					310					315					320
Thr	Ile	Ile	Thr	Gly	Val	Asn	Ala	Ser	Met	Pro	Arg	Val	Ser	Tyr	Ile
				325					330					335	
Lys	Ala	Val	Asp	Ile	Tyr	Leu	Trp	Val	Ser	Phe	Val	Phe	Val	Phe	Leu
			340					345					350		
Ser	Val	Leu	Glu	Tyr	Ala	Ala	Val	Asn	Tyr	Leu	Thr	Thr	Val	Gln	Glu
		355					360					365			
Arg	Lys	Glu	Arg	Lys	Leu	Arg	Glu	Lys	Ile	Ser	Cys	Thr	Cys	Gly	Leu
	370					375					380				
Pro	Gln	Pro	Arg	Gly	Val	Met	Leu	Asp	Ser	Ser	Tyr	Ser	Asp	Gly	Glu
385					390					395					400
Val	Asn	Asp	Leu	Gly	Gly	Tyr	Met	Pro	Glu	Asn	Gly	Glu	Lys	Pro	Asp
				405					410					415	
Arg	Met	Met	Val	Gln	Leu	Thr	Leu	Ala	Ser	Glu	Arg	Gly	Ser	Pro	Gln
			420					425					430		
Arg	Lys	Ser	Gln	Arg	Gly	Ser	Tyr	Val	Ser	Met	Arg	Ile	Asn	Thr	His
		435					440					445			
Ala	Ile	Asp	Lys	Tyr	Ser	Arg	Ile	Ile	Phe	Pro	Ala	Ala	Tyr	Ile	Leu
	450					455					460				
Phe	Asn	Leu	Ile	Tyr	Trp	Ser	Ile	Phe	Ser						
465					470										

<210> 106  
 <211> 474  
 <212> PRT  
 <213> Mus musculus

<400> 106

Met	Lys	Phe	Gly	Ile	Phe	Leu	Leu	Trp	Trp	Gly	Trp	Val	Leu	Ala	Ala	1	5	10	15
Glu	Ser	Thr	Ala	His	Trp	Pro	Gly	Arg	Glu	Val	His	Glu	Pro	Ser	Arg	20	25	30	
Lys	Gly	Ser	Arg	Pro	Gln	Arg	Gln	Arg	Arg	Gly	Ala	His	Asp	Asp	Ala	35	40	45	
His	Lys	Gln	Gly	Ser	Pro	Ile	Leu	Arg	Arg	Ser	Ser	Asp	Ile	Thr	Lys	50	55	60	
Ser	Pro	Leu	Thr	Lys	Ser	Glu	Gln	Leu	Leu	Arg	Ile	Asp	Asp	His	Asp	65	70	75	80
Phe	Ser	Met	Arg	Pro	Gly	Phe	Gly	Gly	Pro	Ala	Ile	Pro	Val	Gly	Val	85	90	95	
Asp	Val	Gln	Val	Glu	Ser	Leu	Asp	Ser	Ile	Ser	Glu	Val	Asp	Met	Asp	100	105	110	
Phe	Thr	Met	Thr	Leu	Tyr	Leu	Arg	His	Tyr	Trp	Lys	Asp	Glu	Arg	Leu	115	120	125	
Ser	Phe	Pro	Ser	Ser	Asn	Asn	Leu	Ser	Met	Thr	Phe	Asp	Gly	Arg	Leu	130	135	140	
Val	Lys	Lys	Ile	Trp	Val	Pro	Asp	Met	Phe	Phe	Val	His	Ser	Lys	Arg	145	150	155	160
Ser	Phe	Ile	His	Asp	Thr	Thr	Thr	Asp	Asn	Val	Met	Leu	Arg	Val	Gln	165	170	175	
Pro	Asp	Gly	Lys	Val	Leu	Tyr	Ser	Leu	Arg	Val	Thr	Val	Thr	Ala	Met	180	185	190	
Cys	Asn	Met	Asp	Phe	Ser	Arg	Phe	Pro	Leu	Asp	Thr	Gln	Thr	Cys	Ser	195	200	205	
Leu	Glu	Ile	Glu	Ser	Tyr	Ala	Tyr	Thr	Glu	Asp	Asp	Leu	Met	Leu	Tyr	210	215	220	
Trp	Lys	Lys	Gly	Asn	Asp	Ser	Leu	Lys	Thr	Asp	Glu	Arg	Ile	Ser	Leu	225	230	235	240
Ser	Gln	Phe	Leu	Ile	Gln	Glu	Phe	His	Thr	Thr	Thr	Lys	Leu	Ala	Phe	245	250	255	
Tyr	Ser	Ser	Thr	Gly	Trp	Tyr	Asn	Arg	Leu	Tyr	Ile	Asn	Phe	Thr	Leu	260	265	270	

Arg Arg His Ile Phe Phe Phe Leu Leu Gln Thr Tyr Phe Pro Ala Thr  
 275 280 285  
 Leu Met Val Met Leu Ser Trp Val Ser Phe Trp Ile Asp Arg Arg Ala  
 290 295 300  
 Val Pro Ala Arg Val Pro Leu Gly Ile Thr Thr Val Leu Thr Met Ser  
 305 310 315 320  
 Thr Ile Ile Thr Gly Val Asn Ala Ser Met Pro Arg Val Ser Tyr Ile  
 325 330 335  
 Lys Ala Val Asp Ile Tyr Leu Trp Val Ser Phe Val Phe Val Phe Leu  
 340 345 350  
 Ser Val Leu Glu Tyr Ala Ala Val Asn Tyr Leu Thr Thr Val Gln Glu  
 355 360 365  
 Arg Lys Glu Arg Lys Leu Arg Glu Lys Ile Ser Cys Thr Cys Gly Leu  
 370 375 380  
 Pro Gln Pro Arg Gly Val Met Leu Asp Ser Ser Tyr Ser Asp Gly Glu  
 385 390 395 400  
 Val Asn Asp Leu Gly Gly Tyr Leu Pro Glu Asn Gly Glu Lys Pro Asp  
 405 410 415  
 Arg Met Met Val Gln Leu Thr Leu Ala Ser Glu Arg Gly Ser Pro Gln  
 420 425 430  
 Arg Lys Gly Gln Arg Gly Ser Tyr Val Ser Met Arg Ile Asn Thr His  
 435 440 445  
 Ala Ile Asp Lys Tyr Ser Arg Ile Ile Phe Pro Ala Ala Tyr Ile Leu  
 450 455 460  
 Phe Asn Leu Ile Tyr Trp Ser Ile Phe Ser  
 465 470

<210> 107

<211> 86

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Neur\_Chan\_LBD  
domain sequence

<400> 107

Asp Lys Arg Val Arg Pro Val Asn Gly Gly Asp Val Pro Pro Val Thr  
 1 5 10 15

Val Ser Val Gly Leu Thr Leu Gln Gln Ile Ile Ser Val Asp Glu Lys  
 20 25 30

Asn Gln Asp Leu Thr Thr Asn Val Trp Leu Arg Gln Gly Gln Trp Thr



35                      40                      45  
 Asp Pro Arg Leu Ala Trp Asn Pro Ser Asp Pro Leu Asp Asp Glu Gly  
     50                      55                      60  
 Asp Tyr Gly Gly Ile Lys Ser Leu Arg Leu Pro Ser Asp Asp Asn His  
     65                      70                      75                      80  
 Asp Met Leu Asp Lys Ile  
                             85

<210> 108  
 <211> 67  
 <212> PRT  
 <213> Homo sapiens

<400> 108  
 Asp Phe Ala Met Arg Pro Gly Phe Gly Gly Ser Pro Val Pro Val Gly  
     1                      5                      10                      15  
 Ile Asp Val His Val Glu Ser Ile Asp Ser Ile Ser Glu Thr Asn Met  
                             20                      25                      30  
 Asp Phe Thr Met Thr Phe Tyr Leu Arg His Tyr Trp Lys Asp Glu Arg  
                             35                      40                      45  
 Leu Ser Phe Pro Ser Thr Ala Asn Lys Ser Met Thr Phe Asp His Arg  
     50                      55                      60  
 Lys Ser Ile  
     65

<210> 109  
 <211> 25  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
       Neurotransmitter-gated ion-channel domain  
       consensus pattern

<220>  
 <221> misc\_feature  
 <222> (2)...(2)  
 <223> "Xaa" = "Ile", "Leu", "Val" or "Phe"

<220>  
 <221> misc\_feature  
 <222> (9)...(9)  
 <223> "Xaa" = "Ile", "Leu", "Val" or "Phe"

<220>  
 <221> misc\_feature  
 <222> (15)...(16)

<223> "Xaa" = "Ile", "Leu", "Val" or "Phe"

<220>

<221> misc\_feature

<222> (20)...(20)

<223> "Xaa" = "Ile", "Leu", "Val" or "Phe"

<220>

<221> misc\_feature

<222> (22)...(24)

<223> "Xaa" = "Ile", "Leu", "Val" or "Phe"

<400> 109

Cys Xaa Leu Ile Val Met Phe Gln Xaa Leu Ile Val Met Phe Xaa Xaa  
1 5 10 15

Phe Tyr Pro Xaa Asp Xaa Xaa Xaa Cys  
20 25

<210> 110

<211> 1015

<212> PRT

<213> Homo sapiens

<400> 110

Met Arg Arg Phe Leu Arg Pro Gly His Asp Pro Val Arg Glu Arg Leu  
1 5 10 15

Lys Arg Asp Leu Phe Gln Phe Asn Lys Thr Val Glu His Gly Phe Pro  
20 25 30

His Gln Pro Ser Ala Leu Gly Tyr Ser Pro Ser Leu His Ile Leu Ala  
35 40 45

Ile Gly Thr Arg Ser Gly Ala Ile Lys Leu Tyr Gly Ala Pro Gly Val  
50 55 60

Glu Phe Met Gly Leu His Gln Glu Asn Asn Ala Val Thr Gln Ile His  
65 70 75 80

Leu Leu Pro Gly Gln Cys Gln Leu Val Thr Leu Leu Asp Asp Asn Ser  
85 90 95

Leu His Leu Trp Ser Leu Lys Val Lys Gly Gly Ala Ser Glu Leu Gln  
100 105 110

Glu Asp Glu Ser Phe Thr Leu Arg Gly Pro Pro Gly Ala Ala Pro Ser  
115 120 125

Ala Thr Gln Ile Thr Val Val Leu Pro His Ser Ser Cys Glu Leu Leu  
130 135 140

Tyr Leu Gly Thr Glu Ser Gly Asn Val Phe Val Val Gln Leu Pro Ala  
145 150 155 160

Phe Arg Ala Leu Glu Asp Arg Thr Ile Ser Ser Asp Ala Val Leu Gln



465		470		475		480
Ala Gln Gly Glu Asp	Glu Trp Pro Pro	Leu Arg Lys Val Gly	Ser Phe			
	485	490	495			
Asp Pro Tyr Ser Asp	Asp Pro Arg Leu Gly	Ile Gln Lys Ile Phe Leu				
	500	505	510			
Cys Lys Tyr Ser Gly	Tyr Leu Ala Val Ala Gly	Thr Ala Gly Gln Val				
	515	520	525			
Leu Val Leu Glu Leu Asn	Asp Glu Ala Ala Glu Gln	Ala Val Glu Gln				
	530	535	540			
Val Glu Ala Asp Leu Leu	Gln Asp Gln Glu Gly Tyr Arg Trp Lys Gly					
	545	550	555			560
His Glu Arg Leu Ala Ala	Arg Ser Gly Pro Val Arg Phe Glu Pro Gly					
	565	570	575			
Phe Gln Pro Phe Val Leu	Val Gln Cys Gln Pro Pro Ala Val Val Thr					
	580	585	590			
Ser Leu Ala Leu His Ser	Glu Trp Arg Leu Val Ala Phe Gly Thr Ser					
	595	600	605			
His Gly Phe Gly Leu Phe	Asp His Gln Gln Arg Arg Gln Val Phe Val					
	610	615	620			
Lys Cys Thr Leu His Pro	Ser Asp Gln Leu Ala Leu Glu Gly Pro Leu					
	625	630	635			640
Ser Arg Val Lys Ser Leu	Lys Lys Ser Leu Arg Gln Ser Phe Arg Arg					
	645	650	655			
Met Arg Arg Ser Arg Val	Ser Ser Arg Lys Arg His Pro Ala Gly Pro					
	660	665	670			
Pro Gly Glu Ala Gln Glu	Gly Ser Ala Lys Ala Glu Arg Pro Gly Leu					
	675	680	685			
Gln Asn Met Glu Leu Ala	Pro Val Gln Arg Lys Ile Glu Ala Arg Ser					
	690	695	700			
Ala Glu Asp Ser Phe Thr	Gly Phe Val Arg Thr Leu Tyr Phe Ala Asp					
	705	710	715			720
Thr Tyr Leu Lys Asp Ser	Ser Arg His Cys Pro Ser Leu Trp Ala Gly					
	725	730	735			
Thr Asn Gly Gly Thr Ile	Tyr Ala Phe Ser Leu Arg Val Pro Pro Ala					
	740	745	750			
Glu Arg Arg Met Asp Glu	Pro Val Arg Ala Glu Gln Ala Lys Glu Ile					
	755	760	765			
Gln Leu Met His Arg Ala	Pro Val Val Gly Ile Leu Val Leu Asp Gly					

770	775	780
His Ser Val Pro Leu	Pro Glu Pro Leu Glu	Val Ala His Asp Leu Ser
785	790	795 800
Lys Ser Pro Asp Met	Gln Gly Ser His	Gln Leu Leu Val Val Ser Glu
	805	810 815
Glu Gln Phe Lys Val Phe Thr Leu Pro	Lys Val Ser Ala Lys Leu Lys	
	820 825	830
Leu Lys Leu Thr Ala Leu Glu Gly Ser Arg Val Arg Arg Val Ser Val		
	835 840	845
Ala His Phe Gly Ser Arg Arg Ala Glu Asp Tyr Gly Glu His His Leu		
	850 855	860
Ala Val Leu Thr Asn Leu Gly Asp Ile Gln Val Val Ser Leu Pro Leu		
	865 870	875 880
Leu Lys Pro Gln Val Arg Tyr Ser Cys Ile Arg Arg Glu Asp Val Ser		
	885 890	895
Gly Ile Ala Ser Cys Val Phe Thr Lys Tyr Gly Gln Gly Phe Tyr Leu		
	900 905	910
Ile Ser Pro Ser Glu Phe Glu Arg Phe Ser Leu Ser Thr Lys Trp Leu		
	915 920	925
Val Glu Pro Arg Cys Leu Val Asp Ser Ala Glu Thr Lys Asn His Arg		
	930 935	940
Pro Gly Asn Gly Ala Gly Pro Lys Lys Ala Pro Ser Arg Ala Arg Asn		
	945 950	955 960
Ser Gly Thr Gln Ser Asp Gly Glu Glu Lys Gln Pro Gly Leu Val Met		
	965 970	975
Glu Arg Ala Leu Leu Ser Asp Glu Arg Ala Ala Thr Gly Val His Ile		
	980 985	990
Glu Pro Pro Trp Gly Ala Ala Ser Ala Met Ala Glu Gln Ser Glu Trp		
	995 1000	1005
Leu Ser Val Gln Ala Ala Arg		
	1010 1015	

<210> 111

<211> 1027

<212> PRT

<213> Mus musculus

<220>

<221> misc\_feature

<222> (716)...(716)

<223> "Xaa" = "Ile", "Leu", "Val" or "Phe"

<220>  
 <221> misc\_feature  
 <222> (720)...(720)  
 <223> "Xaa" = "Ile", "Leu", "Val" or "Phe"  
  
 <400> 111  
 Met Arg Arg Phe Leu Arg Thr Gly His Asp Pro Ala Arg Glu Arg Leu  
   1                  5                  10                  15  
 Lys Arg Asp Leu Phe Gln Phe Asn Lys Thr Val Glu His Gly Phe Pro  
                   20                  25                  30  
 His Gln Pro Ser Ala Leu Gly Tyr Ser Pro Ser Leu Arg Ile Leu Ala  
                   35                  40                  45  
 Ile Gly Thr Arg Ser Gly Ala Val Lys Leu Tyr Gly Ala Pro Gly Val  
                   50                  55                  60  
 Glu Phe Met Gly Leu His Lys Glu Asn Asn Ala Val Leu Gln Ile His  
   65                  70                  75                  80  
 Phe Leu Pro Gly Gln Cys Gln Leu Val Thr Leu Leu Asp Asp Asn Ser  
                   85                  90                  95  
 Leu His Leu Trp Ser Leu Lys Val Lys Gly Gly Val Ser Glu Leu Gln  
                   100                  105                  110  
 Glu Glu Glu Ser Phe Thr Leu Arg Gly Pro Pro Gly Ala Ala Pro Ser  
                   115                  120                  125  
 Ala Thr Gln Val Thr Glu Ile Leu Pro His Ser Ser Gly Glu Leu Leu  
   130                  135                  140  
 Tyr Leu Gly Thr Glu Ser Gly Asn Val Leu Val Val Gln Leu Pro Gly  
   145                  150                  155                  160  
 Phe Arg Thr Leu His Asp Arg Thr Ile Cys Ser Asp Glu Val Leu Gln  
                   165                  170                  175  
 Trp Leu Pro Glu Glu Ala Arg His Arg Arg Val Phe Glu Met Val Glu  
                   180                  185                  190  
 Ala Leu Gln Glu His Pro Arg Asp Pro Asn Gln Ile Leu Ile Gly Tyr  
                   195                  200                  205  
 Ser Arg Gly Leu Val Val Ile Trp Asp Leu Gln Gly Ser Arg Ala Leu  
   210                  215                  220  
 Ser His Phe Leu Ser Ser Gln Gln Leu Glu Asn Ala Ser Trp Gln Arg  
   225                  230                  235                  240  
 Asp Gly Cys Leu Ile Val Thr Cys His Ser Asp Gly Ser His Cys Gln  
                   245                  250                  255  
 Trp Pro Val Ser Ser Asp Thr Gln Asn Pro Glu Pro Leu Arg Ser Ser  
                   260                  265                  270

Ile	Pro	Tyr	Gly	Pro	Phe	Pro	Cys	Lys	Ala	Ile	Thr	Lys	Ile	Phe	Trp
		275					280					285			
Leu	Thr	Thr	Arg	Gln	Gly	Leu	Pro	Phe	Thr	Ile	Phe	Gln	Gly	Gly	Met
	290					295					300				
Pro	Arg	Ala	Ser	Tyr	Gly	Asp	Arg	Asn	Cys	Ile	Ser	Val	Val	His	Asn
305					310					315					320
Gly	Gln	Gln	Thr	Gly	Phe	Asp	Phe	Thr	Ser	Arg	Val	Ile	Asp	Phe	Thr
				325					330					335	
Val	Leu	Ser	Glu	Ala	Asp	Pro	Ala	Ala	Ala	Phe	Asp	Asp	Pro	Tyr	Ala
			340					345					350		
Leu	Val	Val	Leu	Ala	Glu	Glu	Glu	Leu	Val	Val	Ile	Asp	Leu	Gln	Thr
		355					360					365			
Pro	Gly	Trp	Pro	Pro	Val	Gln	Leu	Pro	Tyr	Leu	Ala	Ser	Leu	His	Cys
	370					375					380				
Ser	Ala	Ile	Thr	Cys	Ser	His	His	Val	Ser	Asn	Ile	Pro	Leu	Lys	Leu
385					390					395					400
Trp	Glu	Arg	Ile	Ile	Ala	Ala	Gly	Ser	Arg	Gln	Asn	Ser	His	Phe	Ser
			405						410					415	
Thr	Met	Glu	Trp	Pro	Ile	Asp	Gly	Gly	Thr	Ser	Leu	Ala	Pro	Pro	Pro
			420					425					430		
Pro	Gln	Arg	Asp	Leu	Leu	Leu	Thr	Gly	His	Glu	Asp	Gly	Thr	Val	Arg
		435					440					445			
Phe	Trp	Asp	Ala	Ser	Gly	Val	Cys	Leu	Arg	Leu	Leu	Tyr	Lys	Leu	Ser
	450					455					460				
Thr	Val	Arg	Val	Phe	Leu	Thr	Asp	Thr	Asp	Pro	Ser	Glu	Asn	Leu	Ser
465					470					475					480
Ala	Gln	Gly	Glu	Asp	Glu	Trp	Pro	Pro	Leu	Arg	Lys	Val	Gly	Ser	Phe
				485					490					495	
Asp	Pro	Tyr	Ser	Asp	Asp	Pro	Arg	Leu	Gly	Ile	Gln	Lys	Ile	Phe	Leu
			500					505					510		
Cys	Lys	Tyr	Ser	Gly	Tyr	Leu	Ala	Val	Ala	Gly	Thr	Ala	Gly	Gln	Val
		515					520						525		
Leu	Val	Leu	Glu	Leu	Asn	Asp	Glu	Ala	Ala	Glu	His	Ala	Val	Glu	Gln
		530				535					540				
Val	Glu	Ala	Asp	Leu	Leu	Gln	Asp	Gln	Glu	Gly	Tyr	Arg	Trp	Lys	Gly
545					550					555					560
His	Glu	Arg	Leu	Ala	Ala	Arg	Pro	Gly	Pro	Val	Cys	Phe	Glu	Ala	Gly
				565					570					575	

Phe Gln Pro Phe Val Leu Val Gln Cys Gln Pro Pro Ala Val Val Thr  
580 585 590  
Ser Leu Ala Leu His Ser Glu Trp Arg Leu Val Ala Phe Gly Thr Ser  
595 600 605  
His Gly Phe Gly Leu Phe Asp His Gln Gln Arg Arg Gln Val Phe Val  
610 615 620  
Lys Cys Thr Leu His Pro Ser Asp Gln Leu Ala Leu Glu Gly Pro Leu  
625 630 635 640  
Ser Arg Val Lys Ser Leu Lys Lys Ser Leu Arg Gln Ser Phe Arg Arg  
645 650 655  
Met Arg Arg Ser Arg Val Ser Ser His Lys Arg Arg Pro Gly Gly Pro  
660 665 670  
Thr Gly Glu Ala Gln Ala Gln Ala Val Asn Thr Lys Thr Glu Arg Thr  
675 680 685  
Gly Leu Gln Asn Met Glu Leu Ala Pro Val Gln Arg Lys Ile Glu Ala  
690 695 700  
Arg Ser Ala Glu Asp Ser Phe Thr Gly Phe Val Xaa Thr Leu Tyr Xaa  
705 710 715 720  
Ala Asp Thr Tyr Leu Arg Asp Ser Ser Arg His Cys Pro Ser Leu Trp  
725 730 735  
Ala Gly Thr Asn Gly Ser Thr Val Tyr Ala Phe Ser Leu Arg Val Pro  
740 745 750  
Pro Ala Glu Lys Lys Ile Asn Lys Pro Val Arg Ala Lys Gln Ala Lys  
755 760 765  
Glu Ile Gln Leu Met His Arg Ala Pro Val Val Gly Ile Leu Val Leu  
770 775 780  
Asp Gly His Asn Val Pro Leu Pro Glu Pro Leu Glu Val Ala His Asp  
785 790 795 800  
Leu Ser Lys Ser Pro Asp Met Gln Gly Ser His Gln Leu Leu Val Val  
805 810 815  
Ser Glu Glu Gln Phe Lys Val Phe Thr Leu Pro Lys Val Ser Ala Lys  
820 825 830  
Leu Lys Leu Lys Leu Thr Ala Leu Glu Gly Ser Arg Val Arg Arg Val  
835 840 845  
Gly Val Ala His Phe Gly Ser Cys Arg Ala Glu Asp Tyr Gly Glu His  
850 855 860  
His Leu Ala Val Leu Thr Asn Leu Gly Asp Ile Gln Val Val Ser Met  
865 870 875 880



Pro Leu Leu Lys Pro Gln Val Arg Tyr Ser Cys Ile Arg Arg Glu Asp  
 885 890 895  
 Val Ser Gly Ile Ala Ser Cys Val Phe Thr Lys Tyr Gly Gln Gly Phe  
 900 905 910  
 Tyr Leu Ile Ser Pro Ser Glu Phe Glu Arg Phe Ser Leu Ser Thr Lys  
 915 920 925  
 Trp Leu Val Glu Pro Arg Cys Leu Val Asp Ser Thr Lys Ala Lys Lys  
 930 935 940  
 His Asn Arg Pro Ser Asn Gly Asn Gly Thr Gly Pro Lys Met Thr Ser  
 945 950 955 960  
 Ser Gly His Val Arg Asn Ser Lys Ser Gln Ser Asp Gly Asp Glu Lys  
 965 970 975  
 Lys Pro Gly Pro Val Met Glu His Ala Leu Leu Asn Asp Ala Trp Val  
 980 985 990  
 Leu Lys Glu Ile Gln Ser Thr Leu Glu Gly Asp Arg Arg Ser Tyr Gly  
 995 1000 1005  
 Asn Trp His Pro His Arg Val Ala Val Gly Cys Arg Leu Ser Asn Gly  
 1010 1015 1020  
 Glu Ala Glu  
 1025

<210> 112  
 <211> 1034  
 <212> PRT  
 <213> Mus musculus

<400> 112  
 Met Met Lys Phe Arg Phe Arg Arg Gln Gly Ala Asp Pro Gln Arg Glu  
 1 5 10 15  
 Lys Leu Lys Gln Glu Leu Phe Ala Phe His Lys Thr Val Glu His Gly  
 20 25 30  
 Phe Pro Asn Gln Pro Ser Ala Leu Ala Phe Asp Pro Glu Leu Arg Ile  
 35 40 45  
 Met Ala Ile Gly Thr Arg Ser Gly Ala Val Lys Ile Tyr Gly Ala Pro  
 50 55 60  
 Gly Val Glu Phe Thr Gly Leu His Arg Asp Ala Ala Thr Val Thr Gln  
 65 70 75 80  
 Met His Phe Leu Pro Gly Gln Gly Arg Leu Leu Thr Leu Leu Asp Asp  
 85 90 95  
 Ser Ser Leu His Leu Trp Glu Ile Ile His His Asn Gly Cys Ala His

100					105					110					
Leu	Glu	Glu	Gly	Leu	Ser	Phe	His	Pro	Pro	Ser	Arg	Pro	Ser	Phe	Asp
	115						120					125			
Asn	Ala	Ser	Phe	Pro	Ala	Ser	Leu	Thr	Arg	Val	Thr	Val	Val	Leu	Leu
	130					135					140				
Val	Ala	Gly	Asn	Thr	Ala	Ala	Leu	Gly	Thr	Glu	Ser	Gly	Ser	Ile	Phe
145					150					155					160
Phe	Leu	Asp	Val	Ala	Thr	Leu	Ala	Leu	Leu	Glu	Gly	Gln	Thr	Leu	Ser
				165					170					175	
Pro	Asp	Val	Val	Leu	Arg	Ser	Val	Pro	Asp	Asp	Tyr	Arg	Cys	Gly	Lys
			180					185					190		
Ala	Leu	Gly	Pro	Val	Glu	Ser	Leu	Gln	Gly	His	Leu	Gln	Asp	Pro	Ser
	195						200					205			
Lys	Ile	Leu	Ile	Gly	Tyr	Ser	Arg	Gly	Leu	Leu	Val	Ile	Trp	Ser	Gln
	210					215					220				
Ala	Thr	Gln	Ser	Val	Asp	Asn	Val	Phe	Leu	Gly	Asn	Gln	Gln	Leu	Glu
225					230					235					240
Ser	Leu	Cys	Trp	Gly	Arg	Asp	Gly	Ser	Ser	Ile	Ile	Ser	Ser	His	Ser
				245					250					255	
Asp	Gly	Ser	Tyr	Ala	Ile	Trp	Ser	Thr	Asp	Thr	Gly	Ser	Pro	Pro	Thr
			260					265					270		
Leu	Gln	Pro	Thr	Val	Val	Thr	Thr	Pro	Tyr	Gly	Pro	Phe	Pro	Cys	Lys
	275						280					285			
Ala	Ile	Asn	Lys	Ile	Leu	Trp	Arg	Ser	Cys	Glu	Ser	Gly	Asp	His	Phe
	290					295					300				
Ile	Ile	Phe	Ser	Gly	Gly	Met	Pro	Arg	Ala	Ser	Tyr	Gly	Asp	Arg	His
305					310					315					320
Cys	Val	Ser	Val	Leu	Arg	Ala	Glu	Thr	Leu	Val	Thr	Leu	Asp	Phe	Thr
				325					330					335	
Ser	Arg	Val	Ile	Asp	Phe	Phe	Thr	Val	His	Ser	Thr	Gln	Pro	Glu	Asp
			340					345					350		
Glu	Cys	Asp	Asn	Pro	Gln	Ala	Leu	Ala	Val	Leu	Leu	Glu	Glu	Glu	Leu
		355					360					365			
Val	Val	Leu	Asp	Leu	Gln	Thr	Pro	Gly	Trp	Pro	Ala	Val	Pro	Ala	Pro
	370					375					380				
Tyr	Leu	Ala	Pro	Leu	His	Ser	Ser	Ala	Ile	Thr	Cys	Ser	Ala	His	Val
385					390					395					400
Ala	Asn	Val	Pro	Ser	Lys	Leu	Trp	Ala	Arg	Ile	Val	Ser	Ala	Gly	Glu

405					410					415					
Gln	Gln	Ser	Pro	Gln	Pro	Ala	Ser	Ser	Ala	Leu	Ser	Trp	Pro	Ile	Thr
			420					425					430		
Gly	Gly	Arg	Asn	Leu	Ala	Gln	Glu	Pro	Ser	Gln	Arg	Gly	Leu	Leu	Leu
		435					440					445			
Thr	Gly	His	Glu	Asp	Gly	Thr	Val	Arg	Phe	Trp	Asp	Ala	Ser	Gly	Val
	450					455					460				
Ala	Leu	Arg	Pro	Leu	Tyr	Lys	Leu	Ser	Thr	Ala	Gly	Leu	Phe	Gln	Thr
465					470					475					480
Asp	Cys	Glu	His	Ala	Asp	Ser	Leu	Ala	Gln	Ala	Val	Glu	Asp	Asp	Trp
				485					490					495	
Pro	Pro	Phe	Arg	Lys	Val	Gly	Cys	Phe	Asp	Pro	Tyr	Ser	Asp	Asp	Pro
			500					505					510		
Arg	Leu	Gly	Ile	Gln	Lys	Val	Ala	Leu	Cys	Lys	Tyr	Thr	Ala	Gln	Met
		515					520					525			
Val	Val	Ala	Gly	Thr	Ala	Gly	Gln	Val	Leu	Val	Leu	Glu	Leu	Ser	Glu
	530					535					540				
Val	Pro	Ala	Glu	His	Ala	Val	Ser	Val	Ala	Asn	Val	Asp	Leu	Leu	Gln
545					550					555					560
Asp	Arg	Glu	Gly	Phe	Thr	Trp	Lys	Gly	His	Glu	Arg	Leu	Asn	Pro	His
				565					570					575	
Thr	Gly	Leu	Leu	Pro	Trp	Pro	Ala	Gly	Phe	Gln	Pro	Arg	Met	Leu	Ile
			580					585					590		
Gln	Cys	Leu	Pro	Pro	Ala	Ala	Val	Thr	Ala	Val	Thr	Leu	His	Ala	Glu
		595					600					605			
Trp	Ser	Leu	Val	Ala	Phe	Gly	Thr	Ser	His	Gly	Phe	Gly	Leu	Phe	Asp
		610					615					620			
Tyr	Gln	Arg	Lys	Ser	Pro	Val	Leu	Ala	Arg	Cys	Thr	Leu	His	Pro	Asn
625					630					635					640
Asp	Ser	Leu	Ala	Met	Glu	Gly	Pro	Leu	Ser	Arg	Val	Lys	Ser	Leu	Lys
				645					650					655	
Lys	Ser	Leu	Arg	Gln	Ser	Phe	Arg	Arg	Ile	Arg	Lys	Ser	Arg	Val	Ser
			660					665					670		
Gly	Lys	Lys	Arg	Thr	Pro	Ala	Ala	Ser	Ser	Lys	Glu	Ala	Asn	Ala	Gln
		675					680					685			
Leu	Ala	Glu	Gln	Thr	Cys	Pro	His	Asp	Leu	Glu	Met	Thr	Pro	Val	Gln
	690					695					700				
Arg	Arg	Ile	Glu	Pro	Arg	Ser	Ala	Asp	Asp	Ser	Leu	Ser	Gly	Val	Val

705		710		715		720
Arg Cys Leu Tyr	Phe Ala Asp Thr	Phe Leu Arg Asp Ala	Thr His His			
	725		730			735
Gly Pro Thr Met	Trp Ala Gly Thr	Asn Ser Gly Ser Val	Phe Ala Tyr			
	740		745			750
Ala Leu Glu Val	Pro Ala Ala Thr	Ala Gly Gly Glu Lys	Arg Pro Glu			
	755		760			765
Gln Ala Val Glu	Ala Val Leu Gly	Lys Glu Val Gln	Leu Met His Arg			
	770		775			780
Ala Pro Val Val	Ala Ile Ala Val	Leu Asp Gly Arg	Gly Arg Pro Leu			
	785		790			800
Pro Glu Pro Tyr	Glu Ala Ser Arg	Asp Leu Ala Gln	Ala Pro Asp Met			
	805		810			815
Gln Gly Gly His	Ala Val Leu Ile	Ala Ser Glu Glu	Gln Phe Lys Val			
	820		825			830
Phe Thr Leu Pro	Lys Val Ser Ala	Lys Thr Lys Phe	Lys Leu Thr Ala			
	835		840			845
His Glu Gly Cys	Arg Val Arg Lys	Val Ala Leu Ala	Thr Phe Ala Ser			
	850		855			860
Val Met Ser Glu	Asp Tyr Ala Glu	Thr Cys Leu Ala	Cys Leu Thr Asn			
	865		870			875
Leu Gly Asp Val	His Val Phe Ser	Val Pro Gly Leu	Arg Pro Gln Val			
	885		890			895
His Tyr Ser Cys	Ile Arg Lys Glu	Asp Ile Ser Gly	Ile Ala Ser Cys			
	900		905			910
Val Phe Thr Arg	His Gly Gln Gly	Phe Tyr Leu Ile	Ser Pro Ser Glu			
	915		920			925
Phe Glu Arg Phe	Ser Leu Ser Ala	Arg Asn Ile Thr	Glu Pro Leu Cys			
	930		935			940
Ser Leu Asp Ile	Ser Trp Pro Gln	Asn Ala Thr Gln	Pro Arg Leu Gln			
	945		950			955
Glu Ser Pro Lys	Leu Ser Gln Ala	Asn Gly Thr Arg	Asp Ile Ile Leu			
	965		970			975
Ala Pro Glu Ser	Cys Glu Gly Ser	Pro Ser Ser Ala	His Ser Lys Arg			
	980		985			990
Ala Asp Thr Met	Glu Pro Pro Glu	Ala Ala Leu Ser	Pro Val Ser Ile			
	995		1000			1005
Asp Ser Ala Ala	Ser Gly Asp Thr	Met Leu Asp Thr	Thr Gly Asp Val			

1010	1015	1020
Thr Val Glu Tyr Val Lys Asp Phe Leu Gly		
1025	1030	
<210> 113		
<211> 1057		
<212> PRT		
<213> Homo sapiens		
<400> 113		
Met Met Lys Phe Pro Phe Arg Arg Gln Gly Ala Asp Pro Gln Arg Glu		
1	5	10 15
Lys Leu Lys Gln Glu Leu Phe Ala Phe Asn Lys Thr Val Glu His Gly		
	20	25 30
Phe Pro Asn Gln Pro Ser Ala Leu Ala Phe Asp Pro Glu Leu Arg Ile		
	35	40 45
Met Ala Ile Gly Thr Arg Ser Gly Ala Val Lys Ile Tyr Gly Ala Pro		
	50	55 60
Gly Val Glu Phe Thr Gly Leu His Arg Asp Ala Ala Thr Val Thr Gln		
	65	70 75 80
Met His Phe Leu Thr Gly Gln Gly Arg Leu Leu Ser Leu Leu Asp Asp		
	85	90 95
Ser Ser Leu His Leu Trp Glu Ile Val His His Asn Gly Cys Ala His		
	100	105 110
Leu Glu Glu Ala Leu Ser Phe Gln Leu Pro Ser Arg Pro Gly Phe Asp		
	115	120 125
Gly Ala Ser Ala Pro Leu Ser Leu Thr Arg Val Thr Val Val Leu Leu		
	130	135 140
Val Ala Ala Gly Asp Ile Ala Ala Leu Gly Thr Glu Gly Ser Ser Ser		
	145	150 155 160
Val Phe Phe Leu Asp Val Thr Thr Leu Thr Leu Leu Glu Gly Gln Thr		
	165	170 175
Leu Ala Pro Gly Glu Val Leu Arg Ser Val Pro Asp Asp Tyr Arg Cys		
	180	185 190
Gly Lys Asp Leu Gly Pro Val Glu Ser Leu Gln Gly His Leu Gln Asp		
	195	200 205
Pro Thr Lys Ile Leu Ile Gly Tyr Ser Arg Gly Leu Leu Val Ile Arg		
	210	215 220
Asn Gln Ala Ser Gln Cys Val Asp His Ile Phe Leu Gly Asn Gln Gln		
	225	230 235 240

Leu	Glu	Ser	Leu	Cys	Trp	Gly	Arg	Asp	Ser	Ser	Thr	Val	Val	Ser	Ser		
				245					250					255			
His	Ser	Asp	Gly	Ser	Tyr	Ala	Val	Trp	Ser	Val	Asp	Ala	Gly	Ser	Phe		
			260					265					270				
Pro	Thr	Leu	Gln	Pro	Thr	Val	Ala	Thr	Thr	Pro	Tyr	Gly	Pro	Phe	Pro		
		275					280					285					
Cys	Lys	Ala	Ile	Asn	Lys	Ile	Leu	Trp	Arg	Asn	Cys	Glu	Ser	Gly	Gly		
	290					295					300						
His	Phe	Ile	Ile	Phe	Ser	Gly	Gly	Met	Pro	Arg	Ala	Ser	Tyr	Gly	Asp		
305					310					315					320		
Arg	His	Cys	Val	Ser	Val	Leu	Arg	Ala	Glu	Thr	Leu	Val	Thr	Leu	Asp		
				325					330						335		
Phe	His	Phe	Arg	Ile	Ile	Asp	Phe	Phe	Thr	Val	His	Ser	Thr	Arg	Pro		
			340					345					350				
Glu	Asp	Glu	Phe	Asp	Asp	Pro	Gln	Ala	Leu	Ala	Val	Leu	Leu	Glu	Glu		
		355					360					365					
Glu	Leu	Val	Val	Leu	Asp	Leu	Gln	Thr	Pro	Gly	Trp	Pro	Ala	Val	Pro		
	370					375					380						
Ala	Pro	Tyr	Leu	Ala	Pro	Leu	His	Ser	Ser	Ala	Ile	Thr	Cys	Ser	Ala		
385					390					395					400		
His	Val	Ala	Ser	Val	Pro	Ala	Lys	Leu	Trp	Ala	Arg	Ile	Val	Ser	Ala		
				405					410					415			
Gly	Glu	Gln	Gln	Ser	Pro	Gln	Pro	Val	Ser	Ser	Ala	Leu	Ser	Trp	Pro		
			420					425					430				
Ile	Thr	Gly	Gly	Arg	Asn	Leu	Ala	Gln	Glu	Pro	Ser	Gln	Arg	Gly	Leu		
		435					440					445					
Leu	Leu	Thr	Gly	His	Glu	Asp	Gly	Thr	Val	Arg	Phe	Trp	Asp	Ala	Ser		
	450					455					460						
Gly	Val	Ala	Leu	Arg	Pro	Leu	Tyr	Lys	Leu	Ser	Thr	Ala	Gly	Leu	Phe		
465					470					475					480		
Gln	Thr	Asp	Cys	Glu	His	Ser	Asp	Ser	Leu	Ala	Gln	Ala	Ala	Glu	Asp		
				485					490					495			
Asp	Trp	Pro	Pro	Phe	Arg	Lys	Val	Gly	Cys	Phe	Asp	Pro	Tyr	Ser	Asp		
			500					505					510				
Asp	Pro	Arg	Leu	Gly	Val	Gln	Lys	Val	Ala	Leu	Cys	Lys	Tyr	Thr	Ala		
		515					520					525					
Gln	Met	Val	Val	Ala	Gly	Thr	Ala	Gly	Gln	Val	Leu	Val	Leu	Glu	Leu		
	530					535					540						

Ser	Asp	Val	Pro	Val	Glu	His	Ala	Val	Ser	Val	Ala	Ile	Ile	Asp	Leu
545					550				555						560
Leu	Gln	Asp	Arg	Glu	Gly	Phe	Thr	Trp	Lys	Gly	His	Glu	Arg	Leu	Ser
				565					570					575	
Pro	Arg	Thr	Gly	Leu	Leu	Pro	Trp	Pro	Ala	Gly	Phe	Gln	Pro	Cys	Val
			580					585					590		
Leu	Val	Gln	Cys	Leu	Pro	Pro	Ala	Ala	Val	Thr	Ala	Val	Thr	Leu	His
		595					600					605			
Thr	Glu	Trp	Ser	Leu	Val	Ala	Phe	Gly	Thr	Ser	His	Gly	Phe	Gly	Leu
	610					615					620				
Leu	Ser	Pro	Val	Leu	Ala	Arg	Cys	Thr	Leu	His	Pro	Asn	Asp	Ser	Leu
625					630					635					640
Ala	Met	Glu	Gly	Pro	Leu	Ser	Arg	Val	Lys	Ser	Leu	Lys	Lys	Ser	Leu
				645					650					655	
Arg	Gln	Ser	Phe	Arg	Arg	Ile	Arg	Lys	Ser	Arg	Val	Ser	Gly	Lys	Lys
			660					665					670		
Arg	Ala	Ala	Asn	Ala	Ser	Ser	Lys	Leu	Gln	Glu	Ala	Asn	Ala	Gln	Leu
		675					680					685			
Ala	Glu	Gln	Ala	Cys	Pro	His	Asp	Val	Glu	Met	Thr	Pro	Val	Gln	Arg
	690					695					700				
Arg	Ile	Glu	Pro	Arg	Ser	Ala	Asp	Asp	Ser	Leu	Ser	Gly	Val	Val	Arg
705					710					715					720
Cys	Leu	Tyr	Phe	Ala	Asp	Thr	Phe	Leu	Arg	Asp	Gly	Ala	His	His	Gly
			725						730				735		
Pro	Thr	Met	Trp	Ala	Gly	Thr	Asn	Ser	Gly	Ser	Val	Phe	Ala	Tyr	Ala
			740					745					750		
Leu	Glu	Val	Pro	Ala	Ala	Ala	Val	Gly	Gly	Glu	Lys	Arg	Pro	Glu	Gln
	755						760					765			
Ala	Val	Glu	Ala	Val	Leu	Gly	Lys	Glu	Leu	Gln	Leu	Met	His	Arg	Ala
	770					775					780				
Pro	Val	Val	Ala	Ile	Ala	Val	Leu	Asp	Gly	Gly	Arg	Pro	Leu	Pro	Glu
785					790					795					800
Pro	Tyr	Glu	Ala	Ser	Arg	Asp	Leu	Ala	Gln	Ala	Pro	His	Met	Gln	Gly
				805					810					815	
Gly	His	Ala	Val	Leu	Ile	Ala	Ser	Glu	Glu	Gln	Phe	Lys	Val	Phe	Thr
			820					825					830		
Leu	Pro	Lys	Val	Ser	Ala	Lys	Thr	Lys	Phe	Lys	Leu	Thr	Ala	His	Glu
		835					840					845			

Gly Cys Arg Val Arg Lys Val Val Ala Leu Ala Thr Phe Ala Ser Val  
 850 855 860  
 Ala Cys Glu Asp Tyr Ala Glu Thr Cys Leu Ala Cys Leu Thr Asn Leu  
 865 870 875 880  
 Gly Asp Val His Val Phe Ser Val Pro Gly Leu Arg Pro Glu Val His  
 885 890 895  
 Tyr Ser Cys Ile Arg Lys Glu Asp Ile Ser Gly Ile Ala Ser Cys Val  
 900 905 910  
 Phe Thr Arg His Gly Gln Gly Phe Tyr Leu Ile Ser Pro Ser Glu Phe  
 915 920 925  
 Glu Arg Phe Ser Leu Ser Ala Arg Asn Ile Thr Glu Gly Leu Cys Ser  
 930 935 940  
 Leu Asp Ile Asn Trp Pro Arg Asp Ala Thr Gln Ala Ser Tyr Arg Ile  
 945 950 955 960  
 Arg Glu Ser Pro Lys Leu Ser Gln Ala Asn Gly Thr Pro Ser Ile Leu  
 965 970 975  
 Leu Ala Pro Gln Ser Leu Asp Gly Ser Pro Asp Pro Ala His Ser Met  
 980 985 990  
 Gly Pro Asp Thr Pro Glu Pro Pro Glu Ala Ala Leu Ser Pro Met Ser  
 995 1000 1005  
 Ile Asp Ser Ala Thr Ser Ala Asp Thr Thr Leu Asp Thr Thr Gly Asp  
 1010 1015 1020  
 Val Thr Val Glu Asp Val Lys Asp Phe Leu Gly Ser Ser Glu Glu Ser  
 1025 1030 1035 1040  
 Glu Lys Asn Leu Arg Asn Leu Ala Glu Asp Glu Ala His Ala Cys Cys  
 1045 1050 1055  
 Ile

<210> 114  
 <211> 1032  
 <212> PRT  
 <213> Homo sapiens

<400> 114  
 Met Met Lys Phe Arg Phe Arg Arg Gln Gly Ala Asp Pro Gln Arg Glu  
 1 5 10 15  
 Lys Leu Lys Gln Glu Leu Phe Ala Phe Asn Lys Thr Val Glu His Gly  
 20 25 30  
 Phe Pro Asn Gln Pro Ser Ala Leu Ala Phe Asp Pro Glu Leu Arg Ile  
 35 40 45



Met Ala Ile Gly Thr Arg Ser Gly Ala Val Lys Ile Tyr Gly Ala Pro  
 50 55 60  
 Gly Val Glu Phe Thr Gly Leu His Arg Asp Ala Ala Thr Val Thr Gln  
 65 70 75 80  
 Met His Phe Leu Thr Gly Gln Gly Arg Leu Leu Ser Leu Leu Asp Asp  
 85 90 95  
 Ser Ser Leu His Leu Trp Glu Ile Val His His Asn Gly Cys Ala His  
 100 105 110  
 Leu Glu Glu Ala Leu Ser Phe Gln Leu Pro Ser Arg Pro Gly Phe Asp  
 115 120 125  
 Gly Ala Ser Ala Pro Leu Ser Leu Thr Arg Val Thr Val Val Leu Leu  
 130 135 140  
 Val Ala Ala Gly Asp Ile Ala Gly Leu Gly Thr Glu Gly Ser Ser Val  
 145 150 155 160  
 Phe Phe Leu Asp Val Thr Thr Leu Thr Leu Leu Glu Gly Gln Thr Leu  
 165 170 175  
 Ala Pro Gly Glu Val Leu Arg Ser Val Pro Asp Asp Tyr Arg Cys Gly  
 180 185 190  
 Lys Ala Leu Gly Pro Val Glu Ser Leu Gln Gly His Cys Gly Thr Pro  
 195 200 205  
 Gln Arg Phe Ser Leu Ala Thr Asp Arg Gly Leu Leu Val Ile Trp Asn  
 210 215 220  
 Gln Ser Arg Gln Cys Val Asp His Ile Phe Leu Gly Asn Gln Gln Leu  
 225 230 235 240  
 Glu Ser Leu Cys Trp Gly Arg Asp Ser Ser Thr Val Val Ser Ser His  
 245 250 255  
 Ser Asp Gly Ser Tyr Ala Val Trp Ser Val Asp Ala Gly Ser Phe Pro  
 260 265 270  
 Thr Leu Gln Pro Thr Val Ala Thr Thr Pro Tyr Gly Pro Phe Pro Cys  
 275 280 285  
 Lys Ala Ile Asn Lys Ile Leu Trp Arg Asn Cys Glu Ser Gly Gly His  
 290 295 300  
 Phe Ile Ile Phe Ser Gly Gly Met Pro Arg Ala Ser Tyr Gly Asp Arg  
 305 310 315 320  
 His Cys Val Ser Val Leu Arg Ala Glu Thr Leu Val Thr Leu Asp Phe  
 325 330 335  
 Thr Ser Arg Ile Ile Asp Phe Phe Thr Val His Ser Thr Arg Pro Glu  
 340 345 350

Asp Glu Phe Asp Asp Pro Gln Ala Leu Ala Val Leu Leu Glu Glu Glu  
 355 360 365  
 Leu Val Val Leu Asp Leu Gln Thr Pro Gly Trp Pro Ala Val Pro Ala  
 370 375 380  
 Pro Tyr Leu Ala Pro Leu His Ser Ser Ala Ile Thr Cys Ser Ala Tyr  
 385 390 395 400  
 Val Ala Ser Val Pro Ala Lys Leu Trp Ala Arg Ile Val Ser Ala Gly  
 405 410 415  
 Glu Gln Gln Ser Pro Gln Pro Val Ser Ser Ala Leu Ser Trp Pro Ile  
 420 425 430  
 Thr Gly Gly Arg Asn Leu Ala Gln Glu Pro Ser Gln Arg Gly Leu Leu  
 435 440 445  
 Leu Thr Gly His Glu Asp Gly Thr Val Arg Phe Trp Asp Ala Ser Gly  
 450 455 460  
 Val Ala Leu Arg Pro Leu Tyr Lys Leu Ser Thr Ala Gly Leu Phe Gln  
 465 470 475 480  
 Thr Asp Cys Glu His Ala Asp Ser Leu Ala Gln Ala Ala Glu Asp Asp  
 485 490 495  
 Trp Pro Pro Phe Arg Lys Val Gly Cys Phe Asp Pro Tyr Ser Asp Asp  
 500 505 510  
 Pro Arg Leu Gly Val Gln Lys Val Ala Leu Cys Lys Tyr Thr Ala Gln  
 515 520 525  
 Met Val Val Ala Gly Thr Ala Gly Gln Val Leu Val Leu Glu Leu Ser  
 530 535 540  
 Asp Val Pro Val Glu Gln Ala Val Ser Val Ala Ile Ile Asp Leu Leu  
 545 550 555 560  
 Gln Asp Arg Glu Gly Phe Thr Trp Lys Gly His Glu Arg Leu Ser Pro  
 565 570 575  
 Arg Thr Gly Pro Leu Pro Trp Pro Ala Gly Phe Leu Pro Arg Val Leu  
 580 585 590  
 Val Gln Cys Leu Pro Pro Ala Ala Val Thr Ala Val Thr Leu His Thr  
 595 600 605  
 Glu Trp Ser Leu Val Ala Phe Gly Thr Ser His Gly Phe Gly Leu Phe  
 610 615 620  
 Asp Tyr Gln Arg Lys Ser Pro Val Leu Ala Arg Cys Thr Leu His Pro  
 625 630 635 640  
 Asn Asp Ser Leu Ala Met Glu Gly Pro Leu Ser Arg Val Lys Ser Leu  
 645 650 655

Lys Lys Ser Leu Arg Gln Ser Phe Arg Arg Ile Arg Lys Ser Arg Val  
 660 665 670  
 Ser Gly Lys Lys Arg Ala Ala Asn Ala Ser Ser Lys Leu Leu Glu Ala  
 675 680 685  
 Asn Ala Gln Leu Ala Glu Gln Ala Cys Pro His Asp Val Glu Met Thr  
 690 695 700  
 Pro Val Gln Arg Arg Ile Glu Pro Arg Ser Ala Asp Asp Ser Leu Ser  
 705 710 715 720  
 Gly Val Val Arg Cys Leu Tyr Phe Ala Asp Thr Phe Leu Arg Asp Gly  
 725 730 735  
 Pro Thr Thr Gly Pro Thr Met Trp Ala Gly Thr Asn Ser Gly Ser Val  
 740 745 750  
 Phe Ala Tyr Ala Leu Glu Val Pro Ala Ala Ala Val Gly Gly Glu Lys  
 755 760 765  
 Arg Pro Glu Gln Ala Val Glu Ala Val Leu Gly Lys Lys Glu Gln Leu  
 770 775 780  
 Met His Arg Ala Pro Val Val Ala Ile Cys Arg Val Gly Arg Arg Gly  
 785 790 795 800  
 Arg Pro Leu Pro Glu Pro Tyr Glu Ala Ser Arg Asp Leu Ala Gln Ala  
 805 810 815  
 Pro Asp Met Gln Gly Gly His Ala Val Leu Ile Ala Ser Glu Glu Gln  
 820 825 830  
 Phe Lys Val Phe Thr Leu Pro Lys Val Ser Ala Lys Thr Lys Phe Lys  
 835 840 845  
 Leu Thr Ala His Glu Gly Cys Arg Val Arg Lys Val Ala Leu Ala Thr  
 850 855 860  
 Phe Cys Gln Cys Gly Leu Gln Thr Met Leu Arg Pro Ala Trp Pro Val  
 865 870 875 880  
 Leu Thr Asn Leu Gly Asp Val His Val Phe Ser Val Pro Leu Arg Pro  
 885 890 895  
 Gln Val His Tyr Ser Cys Ile Arg Lys Glu Asp Ile Ser Gly Ile Ala  
 900 905 910  
 Ser Cys Val Phe Thr Arg His Gly Gln Gly Phe Tyr Leu Ile Ser Pro  
 915 920 925  
 Ser Glu Phe Glu Arg Phe Ser Leu Ser Ala Arg Asn Ile Thr Glu Arg  
 930 935 940  
 Ser Ala Leu Trp Thr Leu Thr Gly Pro Ala Met Pro Pro Arg Pro Val  
 945 950 955 960

Thr Gly Ser Glu Ser His Pro Lys Leu Ser Gln Ala Asn Gly Thr Pro  
965 970 975

Ser Ile Leu Leu Ala Pro Gln Ser Leu Asp Gly Ser Pro Asp Pro Ala  
980 985 990

His Ser Met Gly Pro Asp Thr Pro Glu Pro Pro Glu Ala Ala Leu Ser  
995 1000 1005

Pro Met Ser Ile Asp Ser Ala Thr Ser Ala Asp Thr Thr Leu Thr Arg  
1010 1015 1020

Gln Gly Thr Ser Gln Trp Lys Met  
1025 1030

<210> 115

<211> 36

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: WD domain  
sequence

<400> 115

Leu Leu Arg Thr Leu Gly His Ser Ser Ser Val Thr Ser Leu Ala Phe  
1 5 10 15

Asp Pro Asp Gly Gly Leu Leu Ala Thr Gly Ser Ala Asp Gly Thr Val  
20 25 30

Arg Ile Trp Asp  
35

<210> 116

<211> 37

<212> PRT

<213> Homo sapiens

<400> 116

Asn Lys Thr Val Glu His Gly Phe Pro His Gln Pro Ser Ala Leu Gly  
1 5 10 15

Tyr Ser Pro Ser Leu His Ile Leu Ala Ile Gly Thr Arg Ser Gly Ala  
20 25 30

Ile Lys Leu Tyr Gly  
35

<210> 117

<211> 1130

<212> PRT

<213> Homo sapiens

<400> 117

Gly Val Asn Ala Gln Thr Lys Asn Gly Ala Thr Pro Leu Tyr Leu Ala  
1 5 10 15  
Cys Gln Glu Gly His Leu Glu Val Thr Gln Tyr Leu Val Gln Glu Cys  
20 25 30  
Gly Ala Asp Pro His Ala Arg Ala His Asp Gly Met Thr Pro Leu His  
35 40 45  
Ala Ala Ala Gln Met Gly His Ser Pro Val Ile Val Trp Leu Val Ser  
50 55 60  
Cys Thr Asp Val Ser Leu Ser Glu Gln Asp Lys Asp Gly Ala Thr Ala  
65 70 75 80  
Thr His Phe Ala Ala Ser Arg Gly His Ser Lys Val Leu Ser Trp Leu  
85 90 95  
Leu Leu His Gly Gly Glu Ile Ser Ala Asp Leu Trp Gly Gly Thr Ala  
100 105 110  
Leu Tyr Asp Ala Ala Glu Asn Gly Glu Leu Glu Cys Cys Gln Ile Leu  
115 120 125  
Val Val Asn Gly Ala Glu Leu Glu Val Arg Asp Arg Asp Gly Tyr Ala  
130 135 140  
Ala Ala Asp Leu Ser Asp Phe Asn Gly His Ser His Cys Thr His Cys  
145 150 155 160  
Leu Arg Thr Val Glu Asn Leu Ser Met Glu His Cys Val Leu Ser Arg  
165 170 175  
Asp Pro Ser Val Glu Leu Glu Ala Lys Gln Pro Asp Ser Gly Met Ser  
180 185 190  
Ser Pro Asn Thr Thr Val Ser Val Gln Pro Leu Asn Phe Asp Leu Ser  
195 200 205  
Ser Pro Thr Ser Thr Leu Ser Asn Tyr Asp Ser Cys Ser Ser Ser His  
210 215 220  
Ser Ser Ile Lys Gly Gln His Pro Pro Arg Gly Leu Ser Ser Thr Arg  
225 230 235 240  
Ala Ala Asp Ile Gln Ser Tyr Met Asp Met Leu Asn Pro Glu Leu Gly  
245 250 255  
Leu Pro Trp Gly Thr Ile Gly Lys Pro Ile Pro Pro Pro Pro Pro Pro  
260 265 270  
Ser Phe Pro Pro Pro Pro Pro Pro Gly Thr Gln Leu Pro Pro Pro  
275 280 285  
Pro Pro Ser Tyr Pro Ser Pro Lys Pro Pro Val Gly Pro Gln Ala Ala

290	295	300
Asp Ile Tyr Met Gln Thr Lys Asn Lys Leu Arg His Val Glu Thr Glu 305 310 315 320		
Ala Leu Lys Lys Glu Pro Ser Ser Cys Asp Gly His Asp Gly Leu Arg 325 330 335		
Arg Gln Asp Ser Ser Arg Lys Pro Arg Ala Phe Ser Lys Gln Pro Ser 340 345 350		
Thr Gly Asp Tyr Tyr Arg Gln Leu Gly Arg Cys Pro Gly Glu Thr Leu 355 360 365		
Val Ala Arg Pro Gly Met Ala His Arg Glu Glu Ala Glu Leu Pro Gly 370 375 380		
Asn His Val Pro Asn Gly Cys Ala Ala Asp Pro Lys Ala Ser Arg Glu 385 390 395 400		
Gln Gln Leu Pro Pro Pro Pro Pro Pro Pro Pro Leu Pro Glu Ala Ala 405 410 415		
Ser Ser Pro Pro Pro Val Pro Pro Leu Pro Leu Glu Gly Ala Gly Pro 420 425 430		
Gly Cys Gly Gln Arg Arg Ser Ser Ser Pro Thr Gly Ser Thr Lys Ser 435 440 445		
Phe Asn Val Met Phe Pro Met Gly Asp Asn Ser Glu Leu Leu Ala Glu 450 455 460		
Ile Lys Ala Gly Lys Ser Leu Lys Pro Thr Pro Gln Ser Lys Gly Leu 465 470 475 480		
Thr Thr Val Phe Ser Gly Ser Arg Gln Pro Ala Phe Gln Pro Asp Trp 485 490 495		
Pro Leu Pro Ser Val Ser Pro Ala Leu Leu Pro Val Arg Ser Pro Thr 500 505 510		
Pro Pro Ala Ala Gly Phe Gln Pro Leu Leu Asn Gly Ser Leu Val Pro 515 520 525		
Val Pro Pro Thr Thr Pro Ala Pro Gly Val Gln Leu Asp Val Glu Ala 530 535 540		
Leu Ile Pro Thr His Asp Glu Gln Gly Arg Pro Lys Pro Glu Trp Lys 545 550 555 560		
Arg Gln Val Met Val Gly Lys Met Gln Leu Lys Met Glu Glu Glu Glu 565 570 575		
Glu Gln Arg Trp Lys Gln Arg Ala Ala Thr Gly Arg Ala Pro Arg Gln 580 585 590		
Arg Pro Lys Trp Thr Leu Pro Arg Ala Trp Ser Gly Gly Ser Gly Arg		

595					600					605					
Ser	Leu	Thr	Pro	Ala	Ser	Pro	Pro	Ala	Gly	Gln	Thr	Arg	Ser	Leu	Pro
610					615					620					
Ala	Asp	Ala	Ala	Pro	Arg	Ser	His	Tyr	Thr	Thr	Gln	Asp	Met	Gln	Lys
625					630					635					640
Leu	Thr	Ala	Ala	Ser	Ser	Cys	Cys	Tyr	Pro	Arg	Glu	Gly	Trp	Arg	Tyr
				645					650					655	
Pro	Arg	Glu	Gly	Trp	Arg	Tyr	Ser	Arg	Glu	His	Asn	Ala	Ile	Leu	Trp
			660					665					670		
Pro	Phe	Gly	Glu	Leu	Met	Thr	Glu	Ala	Asp	Ile	Leu	Arg	Ile	Glu	Gln
		675					680					685			
Gln	Ser	Arg	Thr	Cys	Ser	Cys	Arg	Pro	Leu	Thr	Arg	Ala	Ser	Arg	Trp
690					695					700					
Arg	Arg	Cys	Leu	Arg	Arg	Pro	Asp	Cys	Arg	Gly	Arg	Phe	Ala	Trp	Ala
705					710					715					720
Ala	Arg	Thr	Gly	Ser	Thr	Gly	Ala	Ala	Arg	Leu	Trp	Arg	Ala	Arg	Ser
			725						730					735	
Ser	Ser	Ala	Ala	Ser	Pro	Cys	Ser	Ile	Thr	Ala	Pro	Pro	Thr	Ser	Cys
		740						745					750		
Ala	His	Trp	Thr	Arg	Arg	Pro	Arg	Ala	Val	Arg	Ala	Ala	Ser	Pro	Arg
		755					760					765			
Ser	Pro	Leu	Ala	Pro	Arg	Ser	Ala	Ser	Pro	Ser	Cys	Arg	Arg	Thr	Thr
	770					775					780				
Trp	Arg	Pro	Ala	Leu	Ala	Ser	Pro	Ala	Pro	Pro	Pro	Pro	Thr	Ala	Arg
785				790					795						800
Trp	Pro	Thr	Gly	Ser	Pro	Trp	Thr	Pro	Trp	Ala	Arg	Leu	Arg	His	Arg
			805						810					815	
Ile	Ala	Arg	Arg	Arg	Tyr	Leu	Ser	Pro	Ser	Ser	Trp	Arg	Ala	Gly	Arg
			820					825					830		
Pro	Ser	Ala	Arg	Asn	Cys	Ala	Ala	Ser	Arg	Thr	Thr	Ser	Thr	Cys	Ala
		835					840					845			
Arg	Ser	Ala	Ser	Phe	Thr	Ser	Ser	Trp	Ser	Thr	Gly	Ala	Ser	Gly	Pro
		850					855				860				
Ser	Ser	Asp	Arg	Ala	Phe	Arg	Gly	Pro	Gly	Ala	Pro	Arg	Gln	Thr	Ala
865				870					875					880	
Pro	Trp	Arg	Asp	Gly	Arg	Pro	Cys	Trp	Pro	Glu	Leu	Glu	Ala	Thr	Asp
			885					890						895	
Ala	Pro	Arg	Leu	Pro	Val	Ser	Lys	Gly	Glu	Ala	His	Ser	Pro	Asn	Glu

900					905					910						
Arg	Leu	Arg	Gln	Leu	Leu	Arg	Gln	Arg	Gln	Ala	Val	Gly	Lys	Leu	Leu	
915					920					925						
His	His	Trp	Arg	Ser	Leu	Arg	Arg	His	Val	Pro	Pro	Ser	Pro	Gly	Leu	
930					935					940						
Ala	His	Gly	Val	Tyr	Trp	Pro	Gln	His	Phe	Leu	Ser	Pro	Leu	Asp	Gly	
945					950					955					960	
Gly	Ala	Pro	Pro	Arg	Tyr	Glu	Ser	Leu	Thr	Leu	Asp	Leu	Phe	Met	Leu	
965					970					975						
Gly	Tyr	Phe	Gln	Leu	Pro	Glu	Met	Gly	Leu	Ser	Arg	Glu	Asp	Arg	Lys	
980					985					990						
Phe	Arg	His	Leu	Leu	Cys	Tyr	Glu	Met	Phe	His	Arg	Leu	Asp	Ser	His	
995					1000					1005						
Pro	Trp	Glu	Arg	Ile	Arg	Leu	Phe	His	Arg	Val	Val	Leu	Glu	Glu	Val	
1010					1015					1020						
Glu	Ala	Gly	Arg	Arg	Gly	Trp	Ser	Asp	Gly	Phe	Glu	Asp	Leu	Arg	His	
1025					1030					1035					1040	
Arg	Phe	Phe	Gly	Asn	Gly	Leu	Glu	Ala	Gly	Pro	Ala	Pro	Glu	Glu	Gln	
1045					1050					1055						
Ala	Lys	Lys	Lys	Glu	Glu	Lys	Gly	Lys	Glu	Gln	Glu	Arg	Thr	Glu	Glu	
1060					1065					1070						
Ala	Ala	Pro	Val	Gln	Lys	Gly	Asp	Pro	Pro	Lys	Gly	Gln	Arg	Glu	Ala	
1075					1080					1085						
Leu	Ala	Pro	Val	Pro	Gln	Pro	Pro	Pro	Pro	Pro	Ala	Arg	Pro	Pro	Ala	
1090					1095					1100						
Arg	Arg	Ala	Ser	Pro	Pro	Arg	Leu	Pro	Gly	Ser	Gln	Thr	Leu	Arg	Val	
1105					1110					1115					1120	
Pro	Lys	Pro	Pro	Pro	Lys	Thr	Leu	Trp	Asn							
1125					1130											
<210> 118																
<211> 711																
<212> PRT																
<213> Homo sapiens																
<400> 118																
Met	Gly	Trp	Leu	Pro	Leu	Leu	Leu	Leu	Leu	Thr	Gln	Cys	Leu	Gly	Val	
1				5					10					15		
Pro	Gly	Gln	Arg	Ser	Pro	Leu	Asn	Asp	Phe	Gln	Val	Leu	Arg	Gly	Thr	
20					25					30						



Glu Leu Gln His Leu Leu His Ala Val Val Pro Gly Pro Trp Gln Glu  
 35 40 45  
 Asp Val Ala Asp Ala Glu Glu Cys Ala Gly Arg Cys Gly Pro Leu Met  
 50 55 60  
 Asp Cys Arg Ala Phe His Tyr Asn Val Ser Ser His Gly Cys Gln Leu  
 65 70 75 80  
 Leu Pro Trp Thr Gln His Ser Pro His Thr Arg Leu Arg Arg Ser Gly  
 85 90 95  
 Arg Cys Asp Leu Phe Gln Lys Lys Asp Tyr Val Arg Thr Cys Ile Met  
 100 105 110  
 Asn Asn Gly Val Gly Tyr Arg Gly Thr Met Ala Thr Thr Val Gly Gly  
 115 120 125  
 Leu Pro Cys Gln Ala Trp Ser His Lys Phe Pro Asn Asp His Lys Tyr  
 130 135 140  
 Thr Pro Thr Leu Arg Asn Gly Leu Glu Glu Asn Phe Cys Arg Asn Pro  
 145 150 155 160  
 Asp Gly Asp Pro Gly Gly Pro Trp Cys Tyr Thr Thr Asp Pro Ala Val  
 165 170 175  
 Arg Phe Gln Ser Cys Gly Ile Lys Ser Cys Arg Glu Ala Ala Cys Val  
 180 185 190  
 Trp Cys Asn Gly Glu Glu Tyr Arg Gly Ala Val Asp Arg Thr Glu Ser  
 195 200 205  
 Gly Arg Glu Cys Gln Arg Trp Asp Leu Gln His Pro His Gln His Pro  
 210 215 220  
 Phe Glu Pro Gly Lys Phe Leu Asp Gln Gly Leu Asp Asp Asn Tyr Cys  
 225 230 235 240  
 Arg Asn Pro Asp Gly Ser Glu Arg Pro Trp Cys Tyr Thr Thr Asp Pro  
 245 250 255  
 Gln Ile Glu Arg Glu Phe Cys Asp Leu Pro Arg Cys Gly Ser Glu Ala  
 260 265 270  
 Gln Pro Arg Gln Glu Ala Thr Thr Val Ser Cys Phe Arg Gly Lys Gly  
 275 280 285  
 Glu Gly Tyr Arg Gly Thr Ala Asn Thr Thr Thr Ala Gly Val Pro Cys  
 290 295 300  
 Gln Arg Trp Asp Ala Gln Ile Pro His Gln His Arg Phe Thr Pro Glu  
 305 310 315 320  
 Lys Tyr Ala Cys Lys Asp Leu Arg Glu Asn Phe Cys Arg Asn Pro Asp  
 325 330 335

Gly Ser Glu Ala Pro Trp Cys Phe Thr Leu Arg Pro Gly Met Arg Ala  
 340 345 350  
 Ala Phe Cys Tyr Gln Ile Arg Arg Cys Thr Asp Asp Val Arg Pro Gln  
 355 360 365  
 Asp Cys Tyr His Gly Ala Gly Glu Gln Tyr Arg Gly Thr Val Ser Lys  
 370 375 380  
 Thr Arg Lys Gly Val Gln Cys Gln Arg Trp Ser Ala Glu Thr Pro His  
 385 390 395 400  
 Lys Pro Gln Phe Thr Phe Thr Ser Glu Pro His Ala Gln Leu Glu Glu  
 405 410 415  
 Asn Phe Cys Arg Asn Pro Asp Gly Asp Ser His Gly Pro Trp Cys Tyr  
 420 425 430  
 Thr Met Asp Pro Arg Thr Pro Phe Asp Tyr Cys Ala Leu Arg Arg Cys  
 435 440 445  
 Ala Asp Asp Gln Pro Pro Ser Ile Leu Asp Pro Pro Asp Gln Val Gln  
 450 455 460  
 Phe Glu Lys Cys Gly Lys Arg Val Asp Arg Leu Asp Gln Arg Arg Ser  
 465 470 475 480  
 Lys Leu Arg Val Val Gly Gly His Pro Gly Asn Ser Pro Trp Thr Val  
 485 490 495  
 Ser Leu Arg Asn Arg Gln Gly Gln His Phe Cys Gly Gly Ser Leu Val  
 500 505 510  
 Lys Glu Gln Trp Ile Leu Thr Ala Arg Gln Cys Phe Ser Ser Cys His  
 515 520 525  
 Met Pro Leu Thr Gly Tyr Glu Val Trp Leu Gly Thr Leu Phe Gln Asn  
 530 535 540  
 Pro Gln His Gly Glu Pro Ser Leu Gln Arg Val Pro Val Ala Lys Met  
 545 550 555 560  
 Val Cys Gly Pro Ser Gly Ser Gln Leu Val Leu Leu Lys Leu Glu Arg  
 565 570 575  
 Ser Val Thr Leu Asn Gln Arg Val Ala Leu Ile Cys Leu Pro Pro Glu  
 580 585 590  
 Trp Tyr Val Val Pro Pro Gly Thr Lys Cys Glu Ile Ala Gly Trp Gly  
 595 600 605  
 Glu Thr Lys Gly Thr Gly Asn Asp Thr Val Leu Asn Val Ala Phe Leu  
 610 615 620  
 Asn Val Ile Ser Asn Gln Glu Cys Asn Ile Lys His Arg Gly Arg Val  
 625 630 635 640

Arg Glu Ser Glu Met Cys Thr Glu Gly Leu Leu Ala Pro Val Gly Ala  
645 650 655

Cys Glu Gly Asp Tyr Gly Gly Pro Leu Ala Cys Phe Thr His Asn Cys  
660 665 670

Trp Val Leu Glu Gly Ile Ile Ile Pro Asn Arg Val Cys Ala Arg Ser  
675 680 685

Arg Trp Pro Ala Val Phe Thr Arg Val Ser Val Phe Val Asp Trp Ile  
690 695 700

His Lys Val Met Arg Leu Gly  
705 710

<210> 119  
<211> 711  
<212> PRT  
<213> Homo sapiens

<400> 119  
Met Gly Trp Leu Pro Leu Leu Leu Leu Leu Thr Gln Cys Leu Gly Val  
1 5 10 15

Pro Gly Gln Arg Ser Pro Leu Asn Asp Phe Gln Val Leu Arg Gly Thr  
20 25 30

Glu Leu Gln His Leu Leu His Ala Val Val Pro Gly Pro Trp Gln Glu  
35 40 45

Asp Val Ala Asp Ala Glu Glu Cys Ala Gly Arg Cys Gly Pro Leu Met  
50 55 60

Asp Cys Arg Ala Phe His Tyr Asn Val Ser Ser His Gly Cys Gln Leu  
65 70 75 80

Leu Pro Trp Thr Gln His Ser Pro His Thr Arg Leu Arg Arg Ser Gly  
85 90 95

Arg Cys Asp Leu Phe Gln Lys Lys Asp Tyr Val Arg Thr Cys Ile Met  
100 105 110

Asn Asn Gly Val Gly Tyr Arg Gly Thr Met Ala Thr Thr Val Gly Gly  
115 120 125

Leu Pro Cys Gln Ala Trp Ser His Lys Phe Pro Asn Asp His Lys Tyr  
130 135 140

Thr Pro Thr Leu Arg Asn Gly Leu Glu Glu Asn Phe Cys Arg Asn Pro  
145 150 155 160

Asp Gly Asp Pro Gly Gly Pro Trp Cys Tyr Thr Thr Asp Pro Ala Val  
165 170 175

Arg Phe Gln Ser Cys Gly Ile Lys Ser Cys Arg Glu Ala Ala Cys Val  
180 185 190

Trp Cys Asn Gly Glu Glu Tyr Arg Gly Ala Val Asp Arg Thr Glu Ser  
 195 200 205  
 Gly Arg Glu Cys Gln Arg Trp Asp Leu Gln His Pro His Gln His Pro  
 210 215 220  
 Phe Glu Pro Gly Lys Phe Leu Asp Gln Gly Leu Asp Asp Asn Tyr Cys  
 225 230 235 240  
 Arg Asn Pro Asp Gly Ser Glu Arg Pro Trp Cys Tyr Thr Thr Asp Pro  
 245 250 255  
 Gln Ile Glu Arg Glu Phe Cys Asp Leu Pro Arg Cys Gly Ser Glu Ala  
 260 265 270  
 Gln Pro Arg Gln Glu Ala Thr Thr Val Ser Cys Phe Arg Gly Lys Gly  
 275 280 285  
 Glu Gly Tyr Arg Gly Thr Ala Asn Thr Thr Thr Ala Gly Val Pro Cys  
 290 295 300  
 Gln Arg Trp Asp Ala Gln Ile Pro His Gln His Arg Phe Thr Pro Glu  
 305 310 315 320  
 Lys Tyr Ala Cys Lys Asp Leu Arg Glu Asn Phe Cys Arg Asn Pro Asp  
 325 330 335  
 Gly Ser Glu Ala Pro Trp Cys Phe Thr Leu Arg Pro Gly Met Arg Ala  
 340 345 350  
 Ala Phe Cys Tyr Gln Ile Arg Arg Cys Thr Asp Asp Val Arg Pro Gln  
 355 360 365  
 Asp Cys Tyr His Gly Ala Gly Glu Gln Tyr Arg Gly Thr Val Ser Lys  
 370 375 380  
 Thr Arg Lys Gly Val Gln Cys Gln Arg Trp Ser Ala Glu Thr Pro His  
 385 390 395 400  
 Lys Pro Gln Phe Thr Phe Thr Ser Glu Pro His Ala Gln Leu Glu Glu  
 405 410 415  
 Asn Phe Cys Arg Asn Pro Asp Gly Asp Ser His Gly Pro Trp Cys Tyr  
 420 425 430  
 Thr Met Asp Pro Arg Thr Pro Phe Asp Tyr Cys Ala Leu Arg Arg Cys  
 435 440 445  
 Ala Asp Asp Gln Pro Pro Ser Ile Leu Asp Pro Pro Asp Gln Val Gln  
 450 455 460  
 Phe Glu Lys Cys Gly Lys Arg Val Asp Arg Leu Asp Gln Arg Arg Ser  
 465 470 475 480  
 Lys Leu Arg Val Val Gly Gly His Pro Gly Asn Ser Pro Trp Thr Val  
 485 490 495

Ser Leu Arg Asn Arg Gln Gly Gln His Phe Cys Gly Gly Ser Leu Val  
 500 505 510  
 Lys Glu Gln Trp Ile Leu Thr Ala Arg Gln Cys Phe Ser Ser Cys His  
 515 520 525  
 Met Pro Leu Thr Gly Tyr Glu Val Trp Leu Gly Thr Leu Phe Gln Asn  
 530 535 540  
 Pro Gln His Gly Glu Pro Ser Leu Gln Arg Val Pro Val Ala Lys Met  
 545 550 555 560  
 Val Cys Gly Pro Ser Gly Ser Gln Leu Val Leu Leu Lys Leu Glu Arg  
 565 570 575  
 Ser Val Thr Leu Asn Gln Arg Val Ala Leu Ile Cys Leu Pro Pro Glu  
 580 585 590  
 Trp Tyr Val Val Pro Pro Gly Thr Lys Cys Glu Ile Ala Gly Trp Gly  
 595 600 605  
 Glu Thr Lys Gly Thr Gly Asn Asp Thr Val Leu Asn Val Ala Leu Leu  
 610 615 620  
 Asn Val Ile Ser Asn Gln Glu Cys Asn Ile Lys His Arg Gly Arg Val  
 625 630 635 640  
 Arg Glu Ser Glu Met Cys Thr Glu Gly Leu Leu Ala Pro Val Gly Ala  
 645 650 655  
 Cys Glu Gly Asp Tyr Gly Gly Pro Leu Ala Cys Phe Thr His Asn Cys  
 660 665 670  
 Trp Val Leu Glu Gly Ile Ile Ile Pro Asn Arg Val Cys Ala Arg Ser  
 675 680 685  
 Arg Trp Pro Ala Val Phe Thr Arg Val Ser Val Phe Val Asp Trp Ile  
 690 695 700  
 His Lys Val Met Arg Leu Gly  
 705 710

<210> 120  
 <211> 711  
 <212> PRT  
 <213> Homo sapiens

<400> 120  
 Met Gly Trp Leu Pro Leu Leu Leu Leu Leu Thr Gln Tyr Leu Gly Val  
 1 5 10 15  
 Pro Gly Gln Arg Ser Pro Leu Asn Asp Phe Gln Val Leu Arg Gly Thr  
 20 25 30  
 Glu Leu Gln His Leu Leu His Ala Val Val Pro Gly Pro Trp Gln Glu

35					40					45						
Asp	Val	Ala	Asp	Ala	Glu	Glu	Cys	Ala	Gly	Arg	Cys	Gly	Pro	Leu	Met	
50					55					60						
Asp	Cys	Arg	Ala	Phe	His	Tyr	Asn	Val	Ser	Ser	His	Gly	Cys	Gln	Leu	
65					70					75					80	
Leu	Pro	Trp	Thr	Gln	His	Ser	Pro	His	Thr	Arg	Leu	Arg	Arg	Ser	Gly	
					85					90					95	
Arg	Cys	Asp	Leu	Phe	Gln	Lys	Lys	Asp	Tyr	Val	Arg	Thr	Cys	Ile	Met	
100					105					110						
Asn	Asn	Gly	Val	Gly	Tyr	Arg	Gly	Thr	Met	Ala	Thr	Thr	Val	Gly	Gly	
115					120					125						
Leu	Pro	Cys	Gln	Ala	Trp	Ser	His	Lys	Phe	Pro	Asn	Asp	His	Lys	Tyr	
130					135					140						
Thr	Pro	Thr	Leu	Arg	Asn	Gly	Leu	Glu	Glu	Asn	Phe	Cys	Arg	Asn	Pro	
145					150					155					160	
Asp	Gly	Asp	Pro	Gly	Gly	Pro	Trp	Cys	Tyr	Thr	Thr	Asp	Pro	Ala	Val	
					165					170					175	
Arg	Phe	Gln	Ser	Cys	Gly	Ile	Lys	Ser	Cys	Arg	Glu	Ala	Ala	Cys	Val	
180					185					190						
Trp	Cys	Asn	Gly	Glu	Glu	Tyr	Arg	Gly	Ala	Val	Asp	Arg	Thr	Glu	Ser	
195					200					205						
Gly	Arg	Glu	Cys	Gln	Arg	Trp	Asp	Leu	Gln	His	Pro	His	Gln	His	Pro	
210					215					220						
Phe	Glu	Pro	Gly	Lys	Phe	Leu	Asp	Gln	Gly	Leu	Asp	Asp	Asn	Tyr	Cys	
225					230					235					240	
Arg	Asn	Pro	Asp	Gly	Ser	Glu	Arg	Pro	Trp	Cys	Tyr	Thr	Thr	Asp	Pro	
					245					250					255	
Gln	Ile	Glu	Arg	Glu	Phe	Cys	Asp	Leu	Pro	Arg	Cys	Gly	Ser	Glu	Ala	
260					265					270						
Gln	Pro	Arg	Gln	Glu	Ala	Thr	Thr	Val	Ser	Cys	Phe	Arg	Gly	Lys	Gly	
275					280					285						
Glu	Gly	Tyr	Arg	Gly	Thr	Ala	Asn	Thr	Thr	Thr	Ala	Gly	Val	Pro	Cys	
290					295					300						
Gln	Arg	Trp	Asp	Ala	Gln	Ile	Pro	His	Gln	His	Arg	Phe	Thr	Pro	Glu	
305					310					315					320	
Lys	Tyr	Ala	Cys	Lys	Asp	Leu	Arg	Glu	Asn	Phe	Cys	Arg	Asn	Pro	Asp	
325					330					335						
Gly	Ser	Glu	Ala	Pro	Trp	Cys	Phe	Thr	Leu	Arg	Pro	Gly	Met	Arg	Ala	

340					345					350					
Ala	Phe	Cys	Tyr	Gln	Ile	Arg	Arg	Cys	Thr	Asp	Asp	Val	Arg	Pro	Gln
		355					360					365			
Asp	Cys	Tyr	His	Gly	Ala	Gly	Glu	Gln	Tyr	Arg	Gly	Thr	Val	Ser	Lys
	370					375					380				
Thr	Arg	Lys	Gly	Val	Gln	Cys	Gln	Arg	Trp	Ser	Ala	Glu	Thr	Pro	His
385					390					395					400
Lys	Pro	Gln	Phe	Thr	Phe	Thr	Ser	Glu	Pro	His	Ala	Gln	Leu	Glu	Glu
				405					410					415	
Asn	Phe	Cys	Arg	Asn	Pro	Asp	Gly	Asp	Ser	His	Gly	Pro	Trp	Cys	Tyr
			420					425					430		
Thr	Met	Asp	Pro	Arg	Thr	Pro	Phe	Asp	Tyr	Cys	Ala	Leu	Arg	Arg	Cys
		435					440					445			
Ala	Asp	Asp	Gln	Pro	Pro	Ser	Ile	Leu	Asp	Pro	Pro	Asp	Gln	Val	Gln
	450					455					460				
Phe	Glu	Lys	Cys	Gly	Lys	Arg	Val	Asp	Arg	Leu	Asp	Gln	Arg	Arg	Ser
465					470					475					480
Lys	Leu	Arg	Val	Val	Gly	Gly	His	Pro	Gly	Asn	Ser	Pro	Trp	Thr	Val
				485					490					495	
Ser	Leu	Arg	Asn	Arg	Gln	Gly	Gln	His	Phe	Cys	Gly	Gly	Ser	Leu	Val
			500					505					510		
Lys	Glu	Gln	Trp	Ile	Leu	Thr	Ala	Arg	Gln	Cys	Phe	Ser	Ser	Cys	His
		515					520					525			
Met	Pro	Leu	Thr	Gly	Tyr	Glu	Val	Trp	Leu	Gly	Thr	Leu	Phe	Gln	Asn
	530					535					540				
Pro	Gln	His	Gly	Glu	Pro	Ser	Leu	Gln	Arg	Val	Pro	Val	Ala	Lys	Met
545					550					555					560
Val	Cys	Gly	Pro	Ser	Gly	Ser	Gln	Leu	Val	Leu	Leu	Lys	Leu	Glu	Arg
				565					570					575	
Ser	Val	Thr	Leu	Asn	Gln	Arg	Val	Ala	Leu	Ile	Cys	Leu	Pro	Pro	Glu
			580					585					590		
Trp	Tyr	Val	Val	Pro	Pro	Gly	Thr	Lys	Cys	Glu	Ile	Ala	Gly	Trp	Gly
		595					600					605			
Glu	Thr	Lys	Gly	Thr	Gly	Asn	Asp	Thr	Val	Leu	Asn	Val	Ala	Leu	Leu
	610					615					620				
Asn	Val	Ile	Ser	Asn	Gln	Glu	Cys	Asn	Ile	Lys	His	Arg	Gly	Arg	Val
625					630					635					640
Arg	Glu	Ser	Glu	Met	Cys	Thr	Glu	Gly	Leu	Leu	Ala	Pro	Val	Gly	Ala

645										650					655				
Cys	Glu	Gly	Asp	Tyr	Gly	Gly	Pro	Leu	Ala	Cys	Phe	Thr	His	Asn	Cys				
660										665					670				
Trp	Val	Leu	Glu	Gly	Ile	Ile	Ile	Pro	Asn	Arg	Val	Cys	Ala	Arg	Ser				
675										680					685				
Arg	Trp	Pro	Ala	Val	Phe	Thr	Arg	Val	Ser	Val	Phe	Val	Asp	Trp	Ile				
690										695					700				
His	Lys	Val	Met	Arg	Leu	Gly													
705							710												
<210> 121																			
<211> 567																			
<212> PRT																			
<213> Homo sapiens																			
<400> 121																			
Met	Thr	Ser	Arg	Cys	Ser	Gly	Ala	Gln	Ser	Tyr	Leu	Leu	His	Ala	Val				
1				5					10					15					
Val	Pro	Gly	Pro	Trp	Gln	Glu	Asp	Val	Ala	Asp	Ala	Glu	Glu	Cys	Ala				
20										25					30				
Gly	Arg	Cys	Gly	Leu	Leu	Met	Asp	Cys	Trp	Ala	Phe	His	Tyr	Asn	Val				
35										40					45				
Ser	Ser	His	Gly	Cys	Gln	Leu	Leu	Pro	Trp	Thr	Gln	His	Ser	Pro	His				
50										55					60				
Ser	Arg	Leu	Arg	His	Ser	Gly	Arg	Cys	Asp	Leu	Phe	Gln	Lys	Lys	Asp				
65										70					75				
Tyr	Ile	Arg	Thr	Cys	Ile	Met	Asn	Asn	Gly	Val	Gly	Tyr	Arg	Asp	Thr				
85										90					95				
Met	Ala	Thr	Thr	Val	Gly	Gly	Leu	Ser	Cys	Gln	Ala	Trp	Ser	His	Lys				
100										105					110				
Phe	Pro	Asn	Asp	His	Gln	Tyr	Met	Pro	Thr	Leu	Arg	Asn	Gly	Leu	Glu				
115										120					125				
Glu	Asn	Phe	Cys	Arg	Asn	Pro	Asp	Gly	Asp	Pro	Gly	Gly	Pro	Trp	Cys				
130										135					140				
His	Thr	Thr	Asp	Pro	Ala	Val	Arg	Phe	Gln	Ser	Cys	Gly	Ile	Lys	Ser				
145										150					155				
Cys	Leu	Val	Ala	Ala	Cys	Val	Trp	Cys	Asn	Gly	Glu	Glu	Tyr	Arg	Gly				
165										170					175				
Ala	Val	Asp	Arg	Thr	Glu	Ser	Gly	Arg	Glu	Cys	Gln	Arg	Trp	Asp	Leu				
180										185					190				



Gln His Pro His Gln His Pro Phe Glu Pro Gly Lys Phe Leu Asp Gln  
 195 200 205  
 Gly Leu Asp Asp Asn Tyr Cys Arg Ser Pro Asp Gly Ser Gln Arg Pro  
 210 215 220  
 Trp Cys Tyr Thr Thr Asp Pro Gln Ile Glu Arg Glu Phe Cys Asp Leu  
 225 230 235 240  
 Pro Arg Cys Gly Ser Glu Ala Gln Pro Arg Gln Glu Ala Thr Ser Val  
 245 250 255  
 Ser Cys Phe Arg Gly Lys Gly Glu Gly Tyr Arg Gly Thr Ala Asn Thr  
 260 265 270  
 Thr Thr Ala Gly Val Pro Cys Gln Arg Trp Asp Ala Gln Ile Pro His  
 275 280 285  
 Gln His Arg Phe Thr Pro Glu Lys Tyr Ala Cys Lys Asp Leu Arg Glu  
 290 295 300  
 Asn Phe Cys Arg Asn Pro Asp Gly Ser Glu Ala Pro Trp Cys Phe Thr  
 305 310 315 320  
 Leu Arg Pro Gly Thr Arg Val Gly Phe Cys Tyr Gln Ile Arg Arg Cys  
 325 330 335  
 Thr Asp Asp Val Arg Pro Gln Asp Cys Tyr His Gly Ala Gly Glu Gln  
 340 345 350  
 Tyr Arg Gly Thr Val Ser Lys Thr Arg Lys Gly Val Gln Cys Gln Arg  
 355 360 365  
 Trp Ser Ala Glu Thr Pro His Lys Pro Gln Phe Thr Phe Thr Ser Glu  
 370 375 380  
 Pro His Ala Gln Leu Glu Glu Asn Phe Cys Gln Asn Pro Asp Gly Asp  
 385 390 395 400  
 Ser His Gly Pro Trp Cys Tyr Thr Met Asp Pro Arg Thr Pro Phe Asp  
 405 410 415  
 Tyr Cys Ala Leu Arg Arg Cys Ala Asp Asp Gln Pro Pro Ser Ile Leu  
 420 425 430  
 Asp Pro Pro Asp Gln Val Gln Phe Glu Lys Cys Gly Lys Arg Val Asp  
 435 440 445  
 Arg Leu Asp Gln Arg Arg Ser Lys Leu Arg Val Ala Gly Gly His Pro  
 450 455 460  
 Gly Asn Ser Pro Trp Thr Val Ser Leu Gly Asn Arg Gln Gly Gln His  
 465 470 475 480  
 Phe Cys Gly Gly Ser Leu Val Lys Glu Gln Trp Ile Leu Thr Ala Arg  
 485 490 495

Gln Cys Phe Ser Ser Cys His Met Pro Leu Thr Gly Tyr Glu Val Trp  
500 505 510

Leu Gly Thr Leu Phe Gln Asn Pro Gln His Gly Glu Pro Gly Leu Gln  
515 520 525

Arg Val Pro Val Ala Lys Met Leu Cys Gly Pro Ser Gly Ser Gln Leu  
530 535 540

Val Leu Leu Lys Leu Glu Arg Ser Val Thr Leu Asn Gln Arg Val Ala  
545 550 555 560

Leu Ile Cys Leu Pro Pro Glu  
565

<210> 122  
<211> 78  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Kringle domain  
sequence

<400> 122  
Cys Val Trp Cys Asn Gly Glu Glu Tyr Arg Gly Ala Val Asp Arg Thr  
1 5 10 15

Glu Ser Gly Arg Glu Cys Gln Arg Trp Asp Leu Gln His Pro His Gln  
20 25 30

His Pro Phe Glu Pro Gly Lys Phe Leu Asp Gln Gly Leu Asp Asp Asn  
35 40 45

Tyr Cys Arg Asn Pro Asp Gly Ser Glu Arg Pro Trp Cys Tyr Thr Thr  
50 55 60

Asp Pro Gln Ile Glu Arg Glu Phe Cys Asp Leu Pro Arg Cys  
65 70 75

<210> 123  
<211> 79  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Kringle domain  
sequence

<400> 123  
Cys Phe Arg Gly Lys Gly Glu Gly Tyr Arg Gly Thr Ala Asn Thr Thr  
1 5 10 15

Thr Ala Gly Val Pro Cys Gln Arg Trp Asp Ala Gln Ile Pro His Gln  
20 25 30

His Arg Phe Thr Pro Glu Lys Tyr Ala Cys Lys Asp Leu Arg Glu Asn  
 35 40 45

Phe Cys Arg Asn Pro Asp Gly Ser Glu Ala Pro Trp Cys Phe Thr Leu  
 50 55 60

Arg Pro Gly Met Arg Ala Ala Phe Cys Tyr Gln Ile Arg Arg Cys  
 65 70 75

<210> 124

<211> 77

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Kringle domain  
 sequence

<400> 124

Cys Ile Met Asn Asn Gly Val Gly Tyr Arg Gly Thr Met Ala Thr Thr  
 1 5 10 15

Val Gly Gly Leu Pro Cys Gln Ala Trp Ser His Lys Phe Pro Asn Asp  
 20 25 30

His Lys Tyr Thr Pro Thr Leu Arg Asn Gly Leu Glu Glu Asn Phe Cys  
 35 40 45

Arg Asn Pro Asp Gly Asp Pro Gly Gly Pro Trp Cys Tyr Thr Thr Asp  
 50 55 60;

Pro Ala Val Arg Phe Gln Ser Cys Gly Ile Lys Ser Cys  
 65 70 75

<210> 125

<211> 80

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Kringle domain  
 sequence

<400> 125

Cys Val Trp Cys Asn Gly Glu Glu Tyr Arg Gly Ala Val Asp Arg Thr  
 1 5 10 15

Glu Ser Gly Arg Glu Cys Gln Arg Trp Asp Leu Gln His Pro His Gln  
 20 25 30

His Pro Phe Glu Pro Gly Lys Phe Leu Asp Gln Gly Leu Asp Asp Asn  
 35 40 45

Tyr Cys Arg Asn Pro Asp Gly Ser Glu Arg Pro Trp Cys Tyr Thr Thr



Arg Pro Gly Met Arg Ala Ala Phe Cys Tyr Gln Ile Arg Arg Cys Thr  
65 70 75 80

Asp

<210> 128

<211> 80

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Apple domain  
sequence

<400> 128

Asp Phe Gln Val Leu Arg Gly Thr Glu Leu Gln His Leu Leu His Ala  
1 5 10 15

Val Val Pro Gly Pro Trp Gln Glu Asp Val Ala Asp Ala Glu Glu Cys  
20 25 30

Ala Gly Arg Cys Gly Pro Leu Met Asp Cys Arg Ala Phe His Tyr Asn  
35 40 45

Val Ser Ser His Gly Cys Gln Leu Leu Pro Trp Thr Gln His Ser Pro  
50 55 60

His Thr Arg Leu Arg Arg Ser Gly Arg Cys Asp Leu Phe Gln Lys Lys  
65 70 75 80

<210> 129

<211> 431

<212> PRT

<213> Mus musculus

<400> 129

Met Asp Ala Arg Trp Trp Ala Val Val Val Leu Ala Thr Leu Pro Ser  
1 5 10 15

Leu Gly Ala Gly Gly Glu Ser Pro Glu Ala Pro Pro Gln Ser Trp Thr  
20 25 30

Gln Leu Trp Leu Phe Arg Phe Leu Leu Asn Val Ala Gly Tyr Ala Ser  
35 40 45

Phe Met Val Pro Gly Tyr Leu Leu Val Gln Tyr Leu Arg Arg Lys Asn  
50 55 60

Tyr Leu Glu Thr Gly Arg Gly Leu Cys Phe Pro Leu Val Lys Ala Cys  
65 70 75 80

Val	Phe	Gly	Asn	Glu	Pro	Lys	Ala	Pro	Asp	Glu	Val	Leu	Leu	Ala	Pro	85	90	95	
Arg	Thr	Glu	Thr	Ala	Glu	Ser	Thr	Pro	Ser	Trp	Gln	Val	Leu	Lys	Leu	100	105	110	
Val	Phe	Cys	Ala	Ser	Gly	Leu	Gln	Val	Ser	Tyr	Leu	Thr	Trp	Gly	Ile	115	120	125	
Leu	Gln	Glu	Arg	Val	Met	Thr	Gly	Ser	Tyr	Gly	Ala	Thr	Ala	Thr	Ser	130	135	140	
Pro	Gly	Glu	His	Phe	Thr	Asp	Ser	Gln	Phe	Leu	Val	Leu	Met	Asn	Arg	145	150	155	160
Val	Leu	Ala	Leu	Val	Val	Ala	Gly	Leu	Tyr	Cys	Val	Leu	Arg	Lys	Gln	165	170	175	
Pro	Arg	His	Gly	Ala	Pro	Met	Tyr	Arg	Tyr	Ser	Phe	Ala	Ser	Leu	Ser	180	185	190	
Asn	Val	Leu	Ser	Ser	Trp	Cys	Gln	Tyr	Glu	Ala	Leu	Lys	Phe	Val	Ser	195	200	205	
Phe	Pro	Thr	Gln	Val	Leu	Ala	Lys	Ala	Ser	Lys	Val	Ile	Pro	Val	Met	210	215	220	
Met	Met	Gly	Lys	Leu	Val	Ser	Arg	Arg	Ser	Tyr	Glu	His	Trp	Glu	Tyr	225	230	235	240
Leu	Thr	Ala	Gly	Leu	Ile	Ser	Ile	Gly	Val	Ser	Met	Phe	Leu	Leu	Ser	245	250	255	
Ser	Gly	Pro	Glu	Pro	Arg	Ser	Ser	Pro	Ala	Thr	Thr	Leu	Ser	Gly	Leu	260	265	270	
Val	Leu	Leu	Ala	Gly	Tyr	Ile	Ala	Phe	Asp	Ser	Phe	Thr	Ser	Asn	Trp	275	280	285	
Gln	Asp	Ala	Leu	Phe	Ala	Tyr	Lys	Met	Ser	Ser	Val	Gln	Met	Met	Phe	290	295	300	
Gly	Val	Asn	Leu	Phe	Ser	Cys	Leu	Phe	Thr	Val	Gly	Ser	Leu	Leu	Glu	305	310	315	320
Gln	Gly	Ala	Leu	Leu	Glu	Gly	Ala	Arg	Phe	Met	Gly	Arg	His	Ser	Glu	325	330	335	
Phe	Ala	Leu	His	Ala	Leu	Leu	Leu	Ser	Ile	Cys	Ser	Ala	Phe	Gly	Gln	340	345	350	
Leu	Phe	Ile	Phe	Tyr	Thr	Ile	Gly	Gln	Phe	Gly	Ala	Ala	Val	Phe	Thr	355	360	365	
Ile	Ile	Met	Thr	Leu	Arg	Gln	Ala	Ile	Ala	Ile	Leu	Leu	Ser	Cys	Leu	370	375	380	

Leu Tyr Gly His Thr Val Thr Val Val Gly Gly Leu Gly Val Ala Val  
 385 390 395 400

Val Phe Thr Ala Leu Leu Arg Val Tyr Ala Arg Gly Arg Lys Gln  
 405 410 415

Arg Gly Lys Lys Ala Val Pro Thr Glu Pro Pro Val Gln Lys Val  
 420 425 430

<210> 130

<211> 465

<212> PRT

<213> *Drosophila melanogaster*

<400> 130

Met Tyr Ala Tyr Asn Lys Met Gly Arg Val Pro Glu Leu Val Ile Cys  
 1 5 10 15

Ser Phe Ile Val Val Thr Leu Leu Val Ile His Phe Phe Ser Asp Leu  
 20 25 30

Leu Arg Ala Ser Leu Gly Gly Tyr Tyr Asn Gln Asp Val Thr Leu Ser  
 35 40 45

Gln Leu Val Glu Ser Gln Asn Ser Asp Tyr Ala Trp Phe Leu Lys Leu  
 50 55 60

Leu Val Asn Cys Phe Gly Tyr Ser Cys Val Phe Val Pro Gly Phe Leu  
 65 70 75 80

Ile Tyr Lys Tyr Val Gly Arg Ile Asn Tyr Leu Glu Arg Gly Asn Lys  
 85 90 95

Thr Phe Leu His Lys Ala Ile Asn Met Cys Ile Thr Gly Asn Ser Gly  
 100 105 110

Tyr Asp Gln Leu Asp Ala Gly Thr Ser Thr Ala Asp Lys Asp Arg Pro  
 115 120 125

Ala Ala Ser Thr Ala Pro Lys Arg Thr Ser Ser Gln Glu Ala Val Gln  
 130 135 140

Leu Leu Trp Cys Phe Gly Gly Leu Met Ile Ser Tyr Leu Thr Trp Gly  
 145 150 155 160

Val Leu Gln Glu Lys Ile Met Thr Gln Asn Tyr Leu Asn Phe Thr Gly  
 165 170 175

Glu Ser Ala Lys Phe Lys Asp Ser Gln Phe Leu Val Phe Ser Asn Arg  
 180 185 190

Leu Leu Ala Phe Leu Val Ala Leu Ala Tyr Leu Gln Trp Gln Pro Ser  
 195 200 205

Pro Val Arg His Arg Ala Pro Leu Tyr Lys Tyr Ser Tyr Ala Ser Phe  
 210 215 220

Ser Asn Ile Met Ser Ala Trp Phe Gln Tyr Glu Ala Leu Lys Phe Val  
 225 230 235 240  
 Asn Phe Pro Thr Gln Val Leu Ala Lys Ser Cys Lys Ile Ile Pro Val  
 245 250 255  
 Met Leu Met Gly Lys Ile Met Ser Lys Ala Lys Tyr Glu Ser Tyr Glu  
 260 265 270  
 Tyr Val Thr Ala Leu Leu Ile Ser Leu Gly Met Ile Phe Phe Met Ser  
 275 280 285  
 Gly Ser Ser Asp Ser Ser Lys Ala Ser Gly Val Thr Thr Leu Thr Gly  
 290 295 300  
 Ile Phe Leu Leu Ser Met Tyr Met Val Phe Asp Ser Phe Thr Ala Asn  
 305 310 315 320  
 Trp Gln Gly Ser Leu Phe Lys Ser Tyr Gly Met Thr Pro Leu Gln Met  
 325 330 335  
 Met Cys Gly Val Asn Leu Phe Ser Ser Ile Phe Thr Gly Ala Ser Leu  
 340 345 350  
 Ser Met Gln Gly Gly Phe Met Asp Ser Leu Ala Phe Ala Thr Glu His  
 355 360 365  
 Pro Lys Phe Val Phe Asp Met Val Val Leu Ser Val Cys Ser Ala Val  
 370 375 380  
 Gly Gln Leu Phe Ile Tyr His Thr Ile Asp Val Phe Gly Pro Val Val  
 385 390 395 400  
 Phe Thr Ile Ile Met Thr Leu Arg Gln Ala Val Ala Ile Met Leu Ser  
 405 410 415  
 Cys Phe Ile Tyr Gln His Ser Ile Ser Leu Leu Gly Ile Phe Gly Val  
 420 425 430  
 Leu Ile Val Phe Val Ala Ile Phe Leu Arg Val Tyr Cys Thr Gln Arg  
 435 440 445  
 Leu Arg Ala Ile Arg Lys Arg Ala Glu Ala Asn Lys Pro Lys Met Ala  
 450 455 460  
 Val  
 465

<210> 131  
 <211> 465  
 <212> PRT  
 <213> *Drosophila melanogaster*

<400> 131  
 Met Tyr Ala Tyr Asn Lys Met Gly Arg Val Pro Glu Leu Val Ile Cys



1	5	10	15
Ser Phe Ile Val Val Ser Leu Leu Val Ile His Phe Phe Ser Asp Leu	20	25	30
Leu Arg Ala Ser Leu Gly Gly Tyr Tyr Asn Gln Asp Val Thr Leu Ser	35	40	45
Gln Leu Val Glu Ser Gln Asn Ser Asp Tyr Ala Trp Phe Leu Lys Leu	50	55	60
Leu Val Asn Cys Phe Gly Tyr Ser Cys Val Phe Val Pro Gly Phe Leu	65	70	75
Ile Tyr Lys Tyr Val Gly Arg Ile Asn Tyr Leu Glu Arg Gly Asn Lys	85	90	95
Thr Phe Leu His Lys Ala Ile Asn Met Cys Ile Thr Gly Asn Ser Gly	100	105	110
Tyr Asp Gln Leu Asp Ala Gly Thr Ser Thr Ala Asp Lys Asp Arg Pro	115	120	125
Ala Ala Ser Thr Ala Pro Lys Arg Thr Ser Ser Gln Glu Ala Val Gln	130	135	140
Leu Leu Trp Cys Phe Gly Gly Leu Met Ile Ser Tyr Leu Thr Trp Gly	145	150	155
Val Leu Gln Glu Lys Ile Met Thr Gln Asn Tyr Leu Asn Phe Thr Gly	165	170	175
Glu Ser Ala Lys Phe Lys Asp Ser Gln Phe Leu Val Phe Ser Asn Arg	180	185	190
Leu Leu Ala Phe Leu Val Ala Leu Ala Tyr Leu Gln Trp Gln Pro Ser	195	200	205
Pro Val Arg His Arg Ala Pro Leu Tyr Lys Tyr Ser Tyr Ala Ser Phe	210	215	220
Ser Asn Ile Met Ser Ala Trp Phe Gln Tyr Glu Ala Leu Lys Phe Val	225	230	235
Asn Phe Pro Thr Gln Val Leu Ala Lys Ser Cys Lys Ile Ile Pro Val	245	250	255
Met Leu Met Gly Lys Ile Met Ser Lys Ala Lys Tyr Glu Ser Tyr Glu	260	265	270
Tyr Val Thr Ala Leu Leu Ile Ser Leu Gly Met Ile Phe Phe Met Ser	275	280	285
Gly Ser Ser Asp Ser Ser Lys Ala Ser Gly Val Thr Thr Leu Thr Gly	290	295	300
Ile Phe Leu Leu Ser Met Tyr Met Val Phe Asp Ser Phe Thr Ala Asn			

305                      310                      315                      320  
 Trp Gln Gly Ser Leu Phe Lys Ser Tyr Gly Met Thr Pro Leu Gln Met  
                                  325                                   330                                   335  
 Met Cys Gly Val Asn Leu Phe Ser Ser Ile Phe Thr Gly Ala Ser Leu  
                                  340                                   345                                   350  
 Ser Met Gln Gly Gly Phe Met Asp Ser Leu Ala Phe Ala Thr Glu His  
                                  355                                   360                                   365  
 Pro Lys Phe Val Phe Asp Met Val Val Leu Ser Val Cys Ser Ala Val  
                                  370                                   375                                   380  
 Gly Gln Leu Phe Ile Tyr His Thr Ile Asp Val Phe Gly Pro Val Val  
 385                                   390                                   395                                   400  
 Phe Thr Ile Ile Met Thr Leu Arg Gln Ala Val Ala Ile Met Leu Ser  
                                  405                                   410                                   415  
 Cys Phe Ile Tyr Gln His Ser Ile Ser Leu Leu Gly Ile Phe Gly Val  
                                  420                                   425                                   430  
 Leu Ile Val Phe Val Ala Ile Phe Leu Arg Val Tyr Cys Thr Gln Arg  
                                  435                                   440                                   445  
 Leu Arg Ala Ile Arg Lys Arg Ala Glu Ala Asn Lys Pro Lys Met Ala  
                                  450                                   455                                   460  
 Val  
 465

<210> 132  
 <211> 417  
 <212> PRT  
 <213> Caenorhabditis elegans

<400> 132  
 Met Asp Arg Ser Ile Met Pro Ile Asp Ser Pro Ala Arg Asp Lys Pro  
   1                                  5                                  10                                  15  
 Pro Asp Glu Leu Val Trp Pro Leu Arg Leu Phe Leu Ile Leu Leu Gly  
                                   20                                  25                                  30  
 Tyr Ser Thr Val Ala Thr Pro Ala Ala Ile Leu Ile Tyr Tyr Val Arg  
                                   35                                  40                                  45  
 Arg Asn Arg His Ala Phe Glu Thr Pro Tyr Leu Ser Ile Arg Leu Leu  
   50                                  55                                  60  
 Leu Arg Ser Phe Ala Val Gly Asn Pro Glu Tyr Gln Leu Ile Pro Thr  
   65                                  70                                  75                                  80  
 Gly Glu Lys Gln Ala Arg Lys Glu Asn Asp Ser Ile Pro Gln Thr Arg  
                                   85                                  90                                  95

Ala Gln Cys Ile Asn Val Ile Ile Leu Leu Leu Phe Phe Phe Ser Gly  
 100 105 110  
 Ile Gln Val Thr Leu Val Ala Met Gly Val Leu Gln Glu Arg Ile Ile  
 115 120 125  
 Thr Arg Gly Tyr Arg Arg Ser Asp Gln Leu Glu Val Glu Asp Lys Phe  
 130 135 140  
 Gly Glu Thr Gln Phe Leu Ile Phe Cys Asn Arg Ile Val Ala Leu Val  
 145 150 155 160  
 Leu Ser Leu Met Ile Leu Ala Lys Asp Trp Thr Lys Gln Pro Pro His  
 165 170 175  
 Val Pro Pro Leu Tyr Val His Ser Tyr Thr Ser Phe Ser Asn Thr Ile  
 180 185 190  
 Ser Ser Trp Cys Gln Tyr Glu Ala Leu Lys Tyr Val Ser Phe Pro Thr  
 195 200 205  
 Gln Thr Ile Cys Lys Ala Ser Lys Val Val Val Thr Met Leu Met Gly  
 210 215 220  
 Arg Leu Val Arg Gly Gln Arg Tyr Ser Trp Phe Glu Tyr Gly Cys Gly  
 225 230 235 240  
 Cys Thr Ile Ala Phe Gly Ala Ser Leu Phe Leu Leu Ser Ser Ser Ser  
 245 250 255  
 Lys Gly Ala Gly Ser Thr Ile Thr Tyr Thr Ser Phe Ser Gly Met Ile  
 260 265 270  
 Leu Met Ala Gly Tyr Leu Leu Phe Asp Ala Phe Thr Leu Asn Trp Gln  
 275 280 285  
 Lys Ala Leu Phe Asp Thr Lys Pro Lys Val Ser Lys Tyr Gln Met Met  
 290 295 300  
 Phe Gly Val Asn Phe Phe Ser Ala Ile Leu Cys Ala Val Ser Leu Ile  
 305 310 315 320  
 Glu Gln Gly Thr Leu Trp Ser Ser Ile Lys Phe Gly Ala Glu His Val  
 325 330 335  
 Asp Phe Ser Arg Asp Val Phe Leu Leu Ser Leu Ser Gly Ala Ile Gly  
 340 345 350  
 Gln Ile Phe Ile Tyr Ser Thr Ile Glu Arg Phe Gly Pro Ile Val Phe  
 355 360 365  
 Ala Val Ile Met Thr Ile Arg Gln Ile Phe Ile Arg Asn Thr Leu Ile  
 370 375 380  
 Arg Ala Glu Asp His Arg Gly Val Glu Met Ala Pro Pro Pro Pro Pro  
 385 390 395 400

Glu Pro Phe Arg Leu Lys Phe Leu Ser Met Ile Ile Ala Val Ile His  
405 410 415

Ile

<210> 133

<211> 124

<212> PRT

<213> Mus musculus

<400> 133

Met Asp Ala Arg Trp Trp Ala Val Val Val Leu Ala Thr Leu Pro Ser  
1 5 10 15

Leu Gly Ala Gly Gly Glu Ser Pro Glu Ala Pro Pro Gln Ser Trp Thr  
20 25 30

Gln Leu Trp Leu Phe Arg Phe Leu Leu Asn Val Ala Gly Tyr Ala Ser  
35 40 45

Phe Met Val Pro Gly Tyr Leu Leu Val Gln Tyr Leu Arg Arg Lys Asn  
50 55 60

Tyr Leu Glu Thr Gly Arg Gly Leu Cys Phe Pro Leu Val Lys Ala Cys  
65 70 75 80

Val Phe Gly Asn Glu Pro Lys Ala Pro Asp Glu Val Leu Leu Ala Pro  
85 90 95

Arg Thr Glu Thr Ala Glu Ser Thr Pro Ser Trp Gln Val Leu Lys Leu  
100 105 110

Val Phe Cys Ala Ser Gly Leu Gln Thr Gln Phe Leu  
115 120

<210> 134

<211> 286

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DUF6 domain  
sequence

<400> 134

Ser Ser Ala Lys Asn Ala Phe Lys Lys Cys Phe Lys Ser Ile Phe Ser  
1 5 10 15

Trp His Asn Glu Thr Val Asn Ile Trp Thr Tyr Lys Lys Glu Lys Phe  
20 25 30

Leu Glu Arg Leu Val Lys Leu Ser His Leu Leu Gly Phe Ile Leu Phe  
35 40 45

Phe Leu Leu Ile Leu Asp Phe Leu Phe Leu Leu Val Pro Ile Leu Ala  
 50 55 60  
 Ser Val Thr Ser His Leu Tyr Ile Leu Gln Asp Arg Val Val Phe Gly  
 65 70 75 80  
 Phe Phe Thr Asp Leu Cys Val His Asp Leu Ala Gly Trp Pro Phe Tyr  
 85 90 95  
 Phe Leu Gly Ala Phe Leu Cys Leu Leu Leu Ser Ser Ile Tyr His Thr  
 100 105 110  
 Phe Ser Cys His Ser Leu Glu Lys Val Ser Glu Phe Phe Leu Lys Leu  
 115 120 125  
 Asp Tyr Leu Gly Ile Ser Leu Leu Ile Val Ala Ser Phe Ile Pro Ile  
 130 135 140  
 Ile Tyr Tyr Ala Phe Tyr Cys His Pro Phe Phe Arg Thr Leu Tyr Ile  
 145 150 155 160  
 Ser Ile Ile Leu Val Leu Gly Leu Ile Ala Ile Tyr Val Ser Leu Ser  
 165 170 175  
 Asp Lys Phe Ser Ser Pro Lys Phe Arg Lys Arg Arg Val Pro Leu Arg  
 180 185 190  
 Ala Gly Phe Phe Val Leu Leu Gly Leu Ser Gly Val Ile Pro Leu Leu  
 195 200 205  
 His Ala Leu Ile Leu Phe Gly Gly His Glu Asn Leu Lys Val Arg Ile  
 210 215 220  
 Ala Leu Pro Trp Val Leu Leu Met Ala Leu Leu Tyr Ile Val Gly Ala  
 225 230 235 240  
 Val Phe Tyr Gly Thr Arg Ile Pro Glu Arg Phe Phe Arg Cys Pro His  
 245 250 255  
 Ala Gly Lys Phe Asp Ile Val Gly His Ser His Gln Leu Phe His Val  
 260 265 270  
 Leu Val Val Leu Ala Ala Phe Cys His Tyr Arg Ala Val Leu  
 275 280 285

<210> 135  
 <211> 551  
 <212> PRT  
 <213> Homo sapiens

<400> 135  
 Met Leu Pro Leu Leu Leu Leu Pro Leu Leu Trp Gly Gly Ser Leu Gln  
 1 5 10 15  
 Glu Lys Pro Val Tyr Glu Leu Gln Val Gln Lys Ser Val Thr Val Gln  
 20 25 30

Glu Gly Leu Cys Val Leu Val Pro Cys Ser Phe Ser Tyr Pro Trp Arg  
 35 40 45  
 Ser Trp Tyr Ser Ser Pro Pro Leu Tyr Val Tyr Trp Phe Arg Asp Gly  
 50 55 60  
 Glu Ile Pro Tyr Tyr Ala Glu Val Val Ala Thr Asn Asn Pro Asp Arg  
 65 70 75 80  
 Arg Val Lys Pro Glu Thr Gln Gly Arg Phe Arg Leu Leu Gly Asp Val  
 85 90 95  
 Gln Lys Lys Asn Cys Ser Leu Ser Ile Gly Asp Ala Arg Met Glu Asp  
 100 105 110  
 Thr Gly Ser Tyr Phe Phe Arg Val Glu Arg Gly Arg Asp Val Lys Tyr  
 115 120 125  
 Ser Tyr Gln Gln Asn Lys Leu Asn Leu Glu Val Thr Ala Leu Ile Glu  
 130 135 140  
 Lys Pro Asp Ile His Phe Leu Glu Pro Leu Glu Ser Gly Arg Pro Thr  
 145 150 155 160  
 Arg Leu Ser Cys Ser Leu Pro Gly Ser Cys Glu Ala Gly Pro Pro Leu  
 165 170 175  
 Thr Phe Ser Trp Thr Gly Asn Ala Leu Ser Pro Leu Asp Pro Glu Thr  
 180 185 190  
 Thr Arg Ser Ser Glu Leu Thr Leu Thr Pro Arg Pro Glu Asp His Gly  
 195 200 205  
 Thr Asn Leu Thr Cys Gln Met Lys Arg Gln Gly Ala Gln Val Thr Thr  
 210 215 220  
 Glu Arg Thr Val Gln Leu Asn Val Ser Tyr Ala Pro Gln Thr Ile Thr  
 225 230 235 240  
 Ile Phe Arg Asn Gly Ile Ala Leu Glu Ile Leu Gln Asn Thr Ser Tyr  
 245 250 255  
 Leu Pro Val Leu Glu Gly Gln Ala Leu Arg Leu Leu Cys Asp Ala Pro  
 260 265 270  
 Ser Asn Pro Pro Ala His Leu Ser Trp Phe Gln Gly Ser Pro Ala Leu  
 275 280 285  
 Asn Ala Thr Pro Ile Ser Asn Thr Gly Ile Leu Glu Leu Arg Arg Val  
 290 295 300  
 Arg Ser Ala Glu Glu Gly Gly Phe Thr Cys Arg Ala Gln His Pro Leu  
 305 310 315 320  
 Gly Phe Leu Gln Ile Phe Leu Asn Leu Ser Val Tyr Ser Leu Pro Gln  
 325 330 335

Leu Leu Gly Pro Ser Cys Ser Trp Glu Ala Glu Gly Leu His Cys Arg  
 340 345 350  
 Cys Ser Phe Arg Ala Arg Pro Ala Pro Ser Leu Cys Trp Arg Leu Glu  
 355 360 365  
 Glu Lys Pro Leu Glu Gly Asn Ser Ser Gln Gly Ser Phe Lys Val Asn  
 370 375 380  
 Ser Ser Ser Ala Gly Pro Trp Ala Asn Ser Ser Leu Ile Leu His Gly  
 385 390 395 400  
 Gly Leu Ser Ser Asp Leu Lys Val Ser Cys Lys Ala Trp Asn Ile Tyr  
 405 410 415  
 Gly Ser Gln Ser Gly Ser Val Leu Leu Leu Gln Gly Arg Ser Asn Leu  
 420 425 430  
 Gly Thr Gly Val Val Pro Ala Ala Leu Gly Gly Ala Gly Val Met Ala  
 435 440 445  
 Leu Leu Cys Ile Cys Leu Cys Leu Ile Phe Phe Leu Ile Val Lys Ala  
 450 455 460  
 Arg Arg Lys Gln Ala Ala Gly Arg Pro Glu Lys Met Asp Asp Glu Asp  
 465 470 475 480  
 Pro Ile Met Gly Thr Ile Thr Ser Gly Ser Arg Lys Lys Pro Trp Pro  
 485 490 495  
 Asp Ser Pro Gly Asp Gln Ala Ser Pro Pro Gly Asp Ala Pro Pro Leu  
 500 505 510  
 Glu Glu Gln Lys Glu Leu His Tyr Ala Ser Leu Ser Phe Ser Glu Met  
 515 520 525  
 Lys Ser Arg Glu Pro Lys Asp Gln Glu Ala Pro Ser Thr Thr Glu Tyr  
 530 535 540  
 Ser Glu Ile Lys Thr Ser Lys  
 545 550

<210> 136  
 <211> 551  
 <212> PRT  
 <213> Homo sapiens

<400> 136  
 Met Leu Pro Leu Leu Leu Leu Pro Leu Leu Trp Gly Gly Ser Leu Gln  
 1 5 10 15  
 Glu Lys Pro Val Tyr Glu Leu Gln Val Gln Lys Ser Val Thr Val Gln  
 20 25 30  
 Glu Gly Leu Cys Val Leu Val Pro Cys Ser Phe Ser Tyr Pro Trp Arg

35					40					45						
Ser	Trp	Tyr	Ser	Ser	Pro	Pro	Leu	Tyr	Val	Tyr	Trp	Phe	Arg	Asp	Gly	
50					55					60						
Glu	Ile	Pro	Tyr	Tyr	Ala	Glu	Val	Val	Ala	Thr	Asn	Asn	Pro	Asp	Arg	
65					70					75					80	
Arg	Val	Lys	Pro	Glu	Thr	Gln	Gly	Arg	Phe	Arg	Leu	Leu	Gly	Asp	Val	
85					90					95						
Gln	Lys	Lys	Asn	Cys	Ser	Leu	Ser	Ile	Gly	Asp	Ala	Arg	Met	Glu	Asp	
100					105					110						
Thr	Gly	Ser	Tyr	Phe	Phe	Arg	Val	Glu	Arg	Gly	Arg	Asp	Val	Lys	Tyr	
115					120					125						
Ser	Tyr	Gln	Gln	Asn	Lys	Leu	Asn	Leu	Glu	Val	Thr	Ala	Leu	Ile	Glu	
130					135					140						
Lys	Pro	Asp	Ile	His	Phe	Leu	Glu	Pro	Leu	Glu	Ser	Gly	Arg	Pro	Thr	
145					150					155					160	
Arg	Leu	Ser	Cys	Ser	Leu	Pro	Gly	Ser	Cys	Glu	Ala	Gly	Pro	Pro	Leu	
165					170					175						
Thr	Phe	Ser	Trp	Thr	Gly	Asn	Ala	Leu	Ser	Pro	Leu	Asp	Pro	Glu	Thr	
180					185					190						
Thr	Arg	Ser	Ser	Glu	Leu	Thr	Leu	Thr	Pro	Arg	Pro	Glu	Asp	His	Gly	
195					200					205						
Thr	Asn	Leu	Thr	Cys	Gln	Met	Lys	Arg	Gln	Gly	Ala	Gln	Val	Thr	Thr	
210					215					220						
Glu	Arg	Thr	Val	Gln	Leu	Asn	Val	Ser	Tyr	Ala	Pro	Gln	Thr	Ile	Thr	
225					230					235					240	
Ile	Phe	Arg	Asn	Gly	Ile	Ala	Leu	Glu	Ile	Leu	Gln	Asn	Thr	Ser	Tyr	
245					250					255						
Leu	Pro	Val	Leu	Glu	Gly	Gln	Ala	Leu	Arg	Leu	Leu	Cys	Asp	Ala	Pro	
260					265					270						
Ser	Asn	Pro	Pro	Ala	His	Leu	Ser	Trp	Phe	Gln	Gly	Ser	Pro	Ala	Leu	
275					280					285						
Asn	Ala	Thr	Pro	Ile	Ser	Asn	Thr	Gly	Ile	Leu	Glu	Leu	Arg	Arg	Val	
290					295					300						
Arg	Ser	Ala	Glu	Lys	Gly	Gly	Phe	Thr	Cys	Arg	Ala	Gln	His	Pro	Leu	
305					310					315					320	
Gly	Phe	Leu	Gln	Ile	Phe	Leu	Asn	Leu	Ser	Val	Tyr	Ser	Leu	Pro	Gln	
325					330					335						
Leu	Leu	Gly	Pro	Ser	Cys	Ser	Trp	Glu	Ala	Glu	Gly	Leu	His	Cys	Arg	



340					345					350					
Cys	Ser	Phe	Arg	Ala	Trp	Pro	Ala	Pro	Ser	Leu	Cys	Trp	Arg	Leu	Glu
		355					360					365			
Glu	Lys	Pro	Leu	Glu	Gly	Asn	Ser	Ser	Gln	Gly	Ser	Phe	Lys	Val	Asn
	370					375					380				
Ser	Ser	Ser	Pro	Gly	Pro	Trp	Ala	Asn	Ser	Ser	Leu	Ile	Leu	His	Gly
385					390					395					400
Gly	Leu	Asn	Ser	Asp	Leu	Lys	Val	Ser	Cys	Lys	Ala	Trp	Asn	Ile	Tyr
				405					410					415	
Gly	Ser	Gln	Ser	Gly	Ser	Val	Leu	Leu	Leu	Gln	Gly	Arg	Ser	Asn	Leu
			420					425					430		
Gly	Thr	Gly	Val	Val	Pro	Ala	Ala	Leu	Gly	Gly	Ala	Gly	Val	Met	Ala
		435					440					445			
Leu	Leu	Cys	Ile	Cys	Leu	Cys	Leu	Ile	Phe	Phe	Leu	Ile	Val	Lys	Ala
	450					455					460				
Arg	Arg	Lys	Gln	Ala	Ala	Gly	Arg	Pro	Glu	Lys	Met	Asp	Asp	Glu	Asp
465					470					475					480
Pro	Ile	Met	Gly	Thr	Ile	Thr	Ser	Gly	Ser	Arg	Lys	Lys	Pro	Trp	Pro
				485					490					495	
Asp	Ser	Pro	Gly	Asp	Gln	Ala	Ser	Pro	Pro	Gly	Asp	Ala	Pro	Pro	Leu
			500					505					510		
Glu	Glu	Gln	Lys	Glu	Leu	His	Tyr	Ala	Ser	Leu	Ser	Phe	Ser	Glu	Met
		515					520					525			
Lys	Ser	Arg	Glu	Pro	Lys	Asp	Gln	Glu	Ala	Pro	Ser	Thr	Thr	Glu	Tyr
		530				535					540				
Ser	Glu	Ile	Lys	Thr	Ser	Lys									
545					550										

<210> 137

<211> 442

<212> PRT

<213> Homo sapiens

<400> 137

Met	Leu	Pro	Leu	Leu	Leu	Pro	Leu	Leu	Trp	Ala	Gly	Ala	Leu	Ala	Gln
1				5					10					15	

Glu	Arg	Arg	Phe	Gln	Leu	Glu	Gly	Pro	Glu	Ser	Leu	Thr	Val	Gln	Glu
			20					25					30		

Gly	Leu	Cys	Val	Leu	Val	Pro	Cys	Arg	Leu	Pro	Thr	Thr	Leu	Pro	Ala
		35					40					45			

Ser Tyr Tyr Gly Tyr Gly Tyr Trp Phe Leu Glu Gly Ala Asp Val Pro  
 50 55 60  
 Val Ala Thr Asn Asp Pro Asp Glu Glu Val Gln Glu Glu Thr Arg Gly  
 65 70 75 80  
 Arg Phe His Leu Leu Trp Asp Pro Arg Arg Lys Asn Cys Ser Leu Ser  
 85 90 95  
 Ile Arg Asp Ala Arg Arg Arg Asp Asn Ala Ala Tyr Phe Phe Arg Leu  
 100 105 110  
 Lys Ser Lys Trp Met Lys Tyr Gly Tyr Thr Ser Ser Lys Leu Ser Val  
 115 120 125  
 Arg Val Met Ala Leu Thr His Arg Pro Asn Ile Ser Ile Pro Gly Thr  
 130 135 140  
 Leu Glu Ser Gly His Pro Ser Asn Leu Thr Cys Ser Val Pro Trp Val  
 145 150 155 160  
 Cys Glu Gln Gly Thr Pro Pro Ile Phe Ser Trp Met Ser Ala Ala Pro  
 165 170 175  
 Thr Ser Leu Gly Pro Arg Thr Thr Gln Ser Ser Val Leu Thr Ile Thr  
 180 185 190  
 Pro Arg Pro Gln Asp His Ser Thr Asn Leu Thr Cys Gln Val Thr Phe  
 195 200 205  
 Pro Gly Ala Gly Val Thr Met Glu Arg Thr Ile Gln Leu Asn Val Ser  
 210 215 220  
 Tyr Ala Pro Gln Lys Val Ala Ile Ser Ile Phe Gln Gly Asn Ser Ala  
 225 230 235 240  
 Ala Phe Lys Ile Leu Gln Asn Thr Ser Ser Leu Pro Val Leu Glu Gly  
 245 250 255  
 Gln Ala Leu Arg Leu Leu Cys Asp Ala Asp Gly Asn Pro Pro Ala His  
 260 265 270  
 Leu Ser Trp Phe Gln Gly Phe Pro Ala Leu Asn Ala Thr Pro Ile Ser  
 275 280 285  
 Asn Thr Gly Val Leu Glu Leu Pro Gln Val Gly Ser Ala Glu Glu Gly  
 290 295 300  
 Asp Phe Thr Cys Arg Ala Gln His Pro Leu Gly Ser Leu Gln Ile Ser  
 305 310 315 320  
 Leu Ser Leu Phe Val His Trp Lys Pro Glu Gly Arg Ala Gly Gly Val  
 325 330 335  
 Leu Gly Ala Val Trp Gly Ala Ser Ile Thr Thr Leu Val Phe Leu Cys  
 340 345 350

Val Cys Phe Ile Phe Arg Val Lys Thr Arg Arg Lys Lys Ala Ala Gln  
355 360 365

Pro Val Gln Asn Thr Asp Asp Val Asn Pro Val Met Val Ser Gly Ser  
370 375 380

Arg Gly His Gln His Gln Phe Gln Thr Gly Ile Val Ser Asp His Pro  
385 390 395 400

Ala Glu Ala Gly Pro Ile Ser Glu Asp Glu Gln Glu Leu His Tyr Ala  
405 410 415

Val Leu His Phe His Lys Val Gln Pro Gln Glu Pro Lys Val Thr Asp  
420 425 430

Thr Glu Tyr Ser Glu Ile Lys Ile His Lys  
435 440

<210> 138

<211> 440

<212> PRT

<213> Homo sapiens

<400> 138

Met Leu Pro Leu Leu Leu Pro Leu Leu Trp Ala Gly Ala Leu Ala Gln  
1 5 10 15

Glu Arg Arg Phe Gln Leu Glu Gly Pro Glu Ser Leu Thr Val Gln Glu  
20 25 30

Gly Leu Cys Val Leu Val Pro Cys Arg Leu Pro Thr Thr Leu Pro Ala  
35 40 45

Ser Tyr Tyr Gly Tyr Gly Tyr Trp Phe Leu Glu Gly Ala Asp Val Pro  
50 55 60

Val Ala Thr Asn Asp Pro Asp Glu Glu Val Gln Glu Glu Thr Arg Gly  
65 70 75 80

Arg Phe His Leu Leu Trp Asp Pro Arg Arg Lys Asn Cys Ser Leu Ser  
85 90 95

Ile Arg Asp Ala Arg Arg Arg Asp Asn Ala Ala Tyr Phe Phe Arg Leu  
100 105 110

Lys Ser Lys Trp Met Lys Tyr Gly Tyr Thr Ser Ser Lys Ile Tyr Val  
115 120 125

Arg Val Met Ala Leu Thr His Arg Pro Asn Ile Ser Ile Pro Gly Pro  
130 135 140

Gly Val Trp Pro Ser Ser Asn Leu Thr Cys Ser Val Pro Trp Val Cys  
145 150 155 160

Glu Gln Gly Thr Pro Pro Ile Phe Ser Trp Met Ser Ala Ala Pro His  
165 170 175

Leu Leu Gly Pro Arg Thr Thr Gln Ser Ser Val Leu Thr Ile Thr Pro  
 180 185 190  
 Ala Gln Asp His Ser Thr Asn Leu Thr Cys Gln Val Thr Phe Pro Gly  
 195 200 205  
 Ala Gly Val Thr Met Glu Arg Thr Ile Gln Leu Asn Val Ser Tyr Ala  
 210 215 220  
 Pro Gln Lys Val Ala Ile Ser Ile Phe Gln Gly Asn Ser Ala Ala Phe  
 225 230 235 240  
 Lys Ile Leu Gln Asn Thr Ser Ser Leu Pro Val Leu Glu Gly Gln Ala  
 245 250 255  
 Leu Arg Leu Leu Cys Asp Ala Asp Gly Asn Pro Pro Ala His Leu Ser  
 260 265 270  
 Trp Phe Gln Gly Phe Pro Ala Leu Asn Ala Thr Pro Ile Ser Asn Thr  
 275 280 285  
 Gly Val Leu Glu Leu Pro Gln Val Gly Ser Ala Glu Glu Gly Asp Phe  
 290 295 300  
 Thr Cys Arg Ala Gln His Pro Leu Gly Ser Leu Gln Ile Ser Leu Ser  
 305 310 315 320  
 Leu Phe Val His Trp Lys Pro Glu Gly Arg Ala Gly Gly Val Leu Gly  
 325 330 335  
 Ala Val Trp Gly Ala Ser Ile Thr Thr Leu Val Phe Leu Cys Val Cys  
 340 345 350  
 Phe Ile Phe Arg Val Lys Thr Arg Arg Lys Lys Ala Ala Gln Pro Val  
 355 360 365  
 Gln Asn Thr Asp Asp Val Asn Pro Val Met Val Ser Gly Ser Arg Gly  
 370 375 380  
 His Gln His Gln Phe Gln Thr Gly Ile Val Ser Asp His Pro Ala Glu  
 385 390 395 400  
 Ala Gly Pro Ile Ser Glu Asp Glu Gln Glu Leu His Tyr Ala Val Leu  
 405 410 415  
 His Phe His Lys Val Gln Pro Gln Glu Pro Lys Val Thr Asp Thr Glu  
 420 425 430  
 Tyr Ser Glu Ile Lys Ile His Lys  
 435 440

<210> 139  
 <211> 463  
 <212> PRT  
 <213> Homo sapiens

<400> 139

Met Leu Leu Leu Leu Leu Pro Leu Leu Trp Gly Arg Glu Arg Ala Glu  
1 5 10 15

Gly Gln Thr Ser Lys Leu Leu Thr Met Gln Ser Ser Val Thr Val Gln  
20 25 30

Glu Gly Leu Cys Val His Val Pro Cys Ser Phe Ser Tyr Pro Ser His  
35 40 45

Gly Trp Ile Tyr Pro Gly Pro Val Val His Gly Tyr Trp Phe Arg Glu  
50 55 60

Gly Ala Asn Thr Asp Gln Asp Ala Pro Val Ala Thr Asn Asn Pro Ala  
65 70 75 80

Arg Ala Val Trp Glu Glu Thr Arg Asp Arg Phe His Leu Leu Gly Asp  
85 90 95

Pro His Thr Glu Asn Cys Thr Leu Ser Ile Arg Asp Ala Arg Arg Ser  
100 105 110

Asp Ala Gly Arg Tyr Phe Phe Arg Met Glu Lys Gly Ser Ile Lys Trp  
115 120 125

Asn Tyr Lys His His Arg Leu Ser Val Asn Val Thr Ala Leu Thr His  
130 135 140

Arg Pro Asn Ile Leu Ile Pro Gly Thr Leu Glu Ser Gly Cys Pro Gln  
145 150 155 160

Asn Leu Thr Cys Ser Val Pro Trp Ala Cys Glu Gln Gly Thr Pro Pro  
165 170 175

Met Ile Ser Trp Ile Gly Thr Ser Val Ser Pro Leu Asp Pro Ser Thr  
180 185 190

Thr Arg Ser Ser Val Leu Thr Leu Ile Pro Gln Pro Gln Asp His Gly  
195 200 205

Thr Ser Leu Thr Cys Gln Val Thr Phe Pro Gly Ala Ser Val Thr Thr  
210 215 220

Asn Lys Thr Val His Leu Asn Val Ser Tyr Pro Pro Gln Asn Leu Thr  
225 230 235 240

Met Thr Val Phe Gln Gly Asp Gly Thr Val Ser Thr Val Leu Gly Asn  
245 250 255

Gly Ser Ser Leu Ser Leu Pro Glu Gly Gln Ser Leu Arg Leu Val Cys  
260 265 270

Ala Val Asp Ala Val Asp Ser Asn Pro Pro Ala Arg Leu Ser Leu Ser  
275 280 285

Trp Arg Gly Leu Thr Leu Cys Pro Ser Gln Pro Ser Asn Pro Gly Val

290	295	300
Leu Glu Leu Pro Trp Val His Leu Arg Asp Glu Ala Glu Phe Thr Cys 305 310 315 320		
Arg Ala Gln Asn Pro Leu Gly Ser Gln Gln Val Tyr Leu Asn Val Ser 325 330 335		
Leu Gln Ser Lys Ala Thr Ser Gly Val Thr Gln Gly Val Val Gly Gly 340 345 350		
Ala Gly Ala Thr Ala Leu Val Phe Leu Ser Phe Cys Val Ile Phe Val 355 360 365		
Val Val Arg Ser Cys Arg Lys Lys Ser Ala Arg Pro Ala Ala Gly Val 370 375 380		
Gly Asp Thr Gly Ile Glu Asp Ala Asn Ala Val Arg Gly Ser Ala Ser 385 390 395 400		
Gln Gly Pro Leu Thr Glu Pro Trp Ala Glu Asp Ser Pro Pro Asp Gln 405 410 415		
Pro Pro Pro Ala Ser Ala Arg Ser Ser Val Gly Glu Gly Glu Leu Gln 420 425 430		
Tyr Ala Ser Leu Ser Phe Gln Met Val Lys Pro Trp Asp Ser Arg Gly 435 440 445		
Gln Glu Ala Thr Asp Thr Glu Tyr Ser Glu Ile Lys Ile His Arg 450 455 460		

<210> 140

<211> 34

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Immunoglobulin domain sequence

<400> 140

Ser Val Ser Gly Phe Gly Pro Pro Pro Val Thr Trp Leu Arg Asn Gly
1 5 10 15

Lys Leu Ser Leu Thr Ile Ser Val Thr Pro Glu Asp Ser Gly Gly Thr
20 25 30

Tyr Thr

<210> 141

<211> 290

<212> PRT

<213> Homo sapiens

<400> 141

Ala His Thr Glu Tyr Pro Val Asn Thr Ile Ile Ile His Glu Asp Phe  
1 5 10 15  
Asp Asn Asn Ser Met Ser Asn Asn Ile Ala Leu Leu Lys Thr Asp Thr  
20 25 30  
Ala Met His Phe Gly Asn Leu Val Gln Ser Ile Cys Phe Leu Gly Arg  
35 40 45  
Met Leu His Thr Pro Pro Val Leu Gln Asn Cys Trp Val Ser Gly Trp  
50 55 60  
Asn Pro Thr Ser Ala Thr Gly Asn His Met Thr Met Ser Val Leu Arg  
65 70 75 80  
Lys Ile Phe Val Lys Asp Leu Asp Met Cys Pro Leu Tyr Lys Leu Gln  
85 90 95  
Lys Thr Glu Cys Gly Ser His Thr Lys Glu Glu Thr Lys Thr Ala Cys  
100 105 110  
Leu Gly Asp Pro Gly Ser Pro Met Met Cys Gln Leu Gln Gln Phe Asp  
115 120 125  
Leu Trp Val Leu Arg Gly Ile Leu Asn Phe Gly Gly Glu Thr Cys Pro  
130 135 140  
Gly Leu Phe Leu Tyr Thr Lys Val Glu Asp Tyr Ser Lys Trp Ile Thr  
145 150 155 160  
Ser Lys Ala Glu Arg Ala Gly Pro Pro Leu Ser Ser Leu His His Trp  
165 170 175  
Glu Lys Leu Ile Ser Phe Ser His His Gly Pro Asn Ala Ala Met Thr  
180 185 190  
Gln Lys Thr Tyr Ser Asp Ser Glu Leu Gly His Val Gly Ser Tyr Leu  
195 200 205  
Gln Gly Gln Arg Arg Thr Ile Thr His Ser Arg Leu Gly Asn Ser Ser  
210 215 220  
Arg Asp Ser Leu Asp Val Arg Glu Lys Asp Val Lys Glu Ser Gly Arg  
225 230 235 240  
Ser Pro Glu Ala Ser Val Gln Pro Leu Tyr Tyr Asp Tyr Tyr Gly Gly  
245 250 255  
Glu Val Gly Glu Gly Arg Ile Phe Ala Gly Gln Asn Arg Leu Tyr Gln  
260 265 270  
Pro Glu Glu Ile Ile Leu Val Ser Phe Val Leu Val Phe Phe Cys Ser  
275 280 285  
Ser Ile

290

<210> 142

<211> 270

<212> PRT

<213> Homo sapiens

<400> 142

Met	Ser	Asn	Asn	Ile	Ala	Leu	Leu	Lys	Thr	Asp	Thr	Ala	Met	His	Phe
1				5					10					15	
Gly	Asn	Leu	Val	Gln	Ser	Ile	Cys	Phe	Leu	Gly	Arg	Met	Leu	His	Thr
			20					25					30		
Pro	Pro	Val	Leu	Gln	Asn	Cys	Trp	Val	Ser	Gly	Trp	Asn	Pro	Thr	Ser
		35					40					45			
Ala	Thr	Gly	Asn	His	Met	Thr	Met	Ser	Val	Leu	Arg	Lys	Ile	Phe	Val
	50					55					60				
Lys	Asp	Leu	Asp	Met	Cys	Pro	Leu	Tyr	Lys	Leu	Gln	Lys	Thr	Glu	Cys
	65				70					75					80
Gly	Ser	His	Thr	Lys	Glu	Glu	Thr	Lys	Thr	Ala	Cys	Leu	Gly	Asp	Pro
				85					90					95	
Gly	Ser	Pro	Met	Met	Cys	Gln	Leu	Gln	Gln	Phe	Asp	Leu	Trp	Val	Leu
			100					105					110		
Arg	Gly	Val	Leu	Asn	Phe	Gly	Gly	Glu	Thr	Cys	Pro	Gly	Leu	Phe	Leu
		115					120					125			
Tyr	Thr	Lys	Val	Glu	Asp	Tyr	Ser	Lys	Trp	Ile	Thr	Ser	Lys	Ala	Glu
	130					135					140				
Arg	Ala	Gly	Pro	Pro	Leu	Ser	Ser	Leu	His	His	Trp	Glu	Lys	Leu	Ile
	145				150					155					160
Ser	Phe	Ser	His	His	Gly	Pro	Asn	Ala	Thr	Met	Thr	Gln	Lys	Thr	Tyr
			165						170					175	
Ser	Asp	Ser	Glu	Leu	Gly	His	Val	Gly	Ser	Tyr	Leu	Gln	Gly	Gln	Arg
			180					185					190		
Arg	Thr	Ile	Thr	His	Ser	Arg	Leu	Gly	Asn	Ser	Ser	Arg	Asp	Ser	Leu
		195					200					205			
Asp	Val	Arg	Glu	Lys	Asp	Val	Lys	Glu	Ser	Gly	Arg	Ser	Pro	Glu	Ala
	210					215					220				
Ser	Val	Gln	Pro	Leu	Tyr	Tyr	Asp	Tyr	Tyr	Gly	Gly	Glu	Val	Gly	Glu
	225				230					235					240
Gly	Arg	Ile	Phe	Ala	Gly	Gln	Asn	Arg	Leu	Tyr	Gln	Pro	Glu	Glu	Ile
			245						250					255	



Ile Leu Val Ser Phe Val Leu Val Phe Phe Cys Ser Ser Ile  
 260 265 270

<210> 143  
 <211> 624  
 <212> PRT  
 <213> Mus musculus

<400> 143

Met Thr Ser Leu His Gln Val Leu Tyr Phe Ile Phe Phe Ala Ser Val  
 1 5 10 15

Ser Ser Glu Cys Val Thr Lys Val Phe Lys Asp Ile Ser Phe Gln Gly  
 20 25 30

Gly Asp Leu Ser Thr Val Phe Thr Pro Ser Ala Thr Tyr Cys Arg Leu  
 35 40 45

Val Cys Thr His His Pro Arg Cys Leu Leu Phe Thr Phe Met Ala Glu  
 50 55 60

Ser Ser Ser Asp Asp Pro Thr Lys Trp Phe Ala Cys Ile Leu Lys Asp  
 65 70 75 80

Ser Val Thr Glu Ile Leu Pro Met Val Asn Met Thr Gly Ala Ile Ser  
 85 90 95

Gly Tyr Ser Phe Lys Gln Cys Pro Gln Gln Leu Ser Thr Cys Ser Lys  
 100 105 110

Asp Val Tyr Val Asn Leu Asp Met Lys Gly Met Asn Tyr Asn Ser Ser  
 115 120 125

Val Val Lys Asn Ala Arg Glu Cys Gln Glu Arg Cys Thr Asp Asp Ala  
 130 135 140

His Cys Gln Phe Phe Thr Tyr Ala Thr Gly Tyr Phe Pro Ser Val Asp  
 145 150 155 160

His Arg Lys Met Cys Leu Leu Lys Tyr Thr Arg Thr Gly Thr Pro Thr  
 165 170 175

Thr Ile Thr Lys Leu Asn Gly Val Val Ser Gly Phe Ser Leu Lys Ser  
 180 185 190

Cys Gly Leu Ser Asn Leu Ala Cys Ile Arg Asp Ile Phe Pro Asn Thr  
 195 200 205

Val Leu Ala Asp Leu Asn Ile Asp Ser Val Val Ala Pro Asp Ala Phe  
 210 215 220

Val Cys Arg Arg Ile Cys Thr His His Pro Thr Cys Leu Phe Phe Thr  
 225 230 235 240

Phe Phe Ser Gln Ala Trp Pro Lys Glu Ser Gln Arg His Leu Cys Leu  
 245 250 255

Leu Lys Thr Ser Glu Ser Gly Leu Pro Ser Thr Arg Ile Thr Lys Ser  
 260 265 270  
 His Ala Leu Ser Gly Phe Ser Leu Gln His Cys Arg His Ser Val Pro  
 275 280 285  
 Val Phe Cys His Pro Ser Phe Tyr Asn Asp Thr Asp Phe Leu Gly Glu  
 290 295 300  
 Glu Leu Asp Ile Val Asp Val Lys Gly Gln Glu Thr Cys Gln Lys Thr  
 305 310 315 320  
 Cys Thr Asn Asn Ala Arg Cys Gln Phe Phe Thr Tyr Tyr Pro Ser His  
 325 330 335  
 Arg Leu Cys Asn Glu Arg Asn Arg Arg Gly Arg Cys Tyr Leu Lys Leu  
 340 345 350  
 Ser Ser Asn Gly Ser Pro Thr Arg Ile Leu His Gly Arg Gly Gly Ile  
 355 360 365  
 Ser Gly Tyr Ser Leu Arg Leu Cys Lys Met Asp Asn Val Cys Thr Thr  
 370 375 380  
 Lys Ile Asn Pro Arg Val Val Gly Gly Ala Ala Ser Val His Gly Glu  
 385 390 395 400  
 Trp Pro Trp Gln Val Thr Leu His Ile Ser Gln Gly His Leu Cys Gly  
 405 410 415  
 Gly Ser Ile Ile Gly Asn Gln Trp Ile Leu Thr Ala Ala His Cys Phe  
 420 425 430  
 Ser Gly Ile Glu Thr Pro Lys Lys Leu Arg Val Tyr Gly Gly Ile Val  
 435 440 445  
 Asn Gln Ser Glu Ile Asn Glu Gly Thr Ala Phe Phe Arg Val Gln Glu  
 450 455 460  
 Met Ile Ile His Asp Gln Tyr Thr Thr Ala Glu Ser Gly Tyr Asp Ile  
 465 470 475 480  
 Ala Leu Leu Lys Leu Glu Ser Ala Met Asn Tyr Thr Asp Phe Gln Arg  
 485 490 495  
 Pro Ile Cys Leu Pro Ser Lys Gly Asp Arg Asn Ala Val His Thr Glu  
 500 505 510  
 Cys Trp Val Thr Gly Trp Gly Tyr Thr Ala Leu Arg Gly Glu Val Gln  
 515 520 525  
 Ser Thr Leu Gln Lys Ala Lys Val Pro Leu Val Ser Asn Glu Glu Cys  
 530 535 540  
 Gln Thr Arg Tyr Arg Arg His Lys Ile Thr Asn Lys Met Ile Cys Ala  
 545 550 555 560

Gly Tyr Lys Glu Gly Gly Lys Asp Thr Cys Lys Gly Asp Ser Gly Gly  
565 570 575

Pro Leu Ser Cys Lys Tyr Asn Gly Val Trp His Leu Val Gly Ile Thr  
580 585 590

Ser Trp Gly Glu Gly Cys Gly Gln Lys Glu Arg Pro Gly Val Tyr Thr  
595 600 605

Asn Val Ala Lys Tyr Val Asp Trp Ile Leu Glu Lys Thr Gln Thr Val  
610 615 620

<210> 144  
<211> 326  
<212> PRT  
<213> Mus musculus

<400> 144  
Met Cys Arg Gln Pro Met Lys Arg Trp Lys Asp Arg Arg Thr Gly Leu  
1 5 10 15

Leu Leu Pro Leu Val Leu Leu Leu Phe Gly Ala Cys Ser Ser Leu Ala  
20 25 30

Trp Val Cys Gly Arg Arg Met Ser Ser Arg Ser Gln Gln Leu Asn Asn  
35 40 45

Ala Ser Ala Ile Val Glu Gly Lys Pro Ala Ser Ala Ile Val Gly Gly  
50 55 60

Lys Pro Ala Asn Ile Leu Glu Phe Pro Trp His Val Gly Ile Met Asn  
65 70 75 80

His Gly Ser His Leu Cys Gly Gly Ser Ile Leu Asn Glu Trp Trp Val  
85 90 95

Leu Ser Ala Ser His Cys Phe Asp Gln Leu Asn Asn Ser Lys Leu Glu  
100 105 110

Ile Ile His Gly Thr Glu Asp Leu Ser Thr Lys Gly Ile Lys Tyr Gln  
115 120 125

Lys Val Asp Lys Leu Phe Leu His Pro Lys Phe Asp Asp Trp Leu Leu  
130 135 140

Asp Asn Asp Ile Ala Leu Leu Leu Leu Lys Ser Pro Leu Asn Leu Ser  
145 150 155 160

Val Asn Arg Ile Pro Ile Cys Thr Ser Glu Ile Ser Asp Ile Gln Ala  
165 170 175

Trp Arg Asn Cys Trp Val Thr Gly Trp Gly Ile Thr Asn Thr Ser Glu

180	185	190
Lys Gly Val Gln Pro Thr Ile Leu Gln Ala Val Lys Val Asp Leu Tyr		
195	200	205
Arg Trp Asp Trp Cys Gly Tyr Ile Leu Ser Leu Leu Thr Lys Asn Met		
210	215	220
Leu Cys Ala Gly Thr Gln Asp Pro Gly Lys Asp Ala Cys Gln Gly Asp		
225	230	235
Ser Gly Gly Ala Leu Val Cys Asn Lys Lys Arg Asn Thr Ala Ile Trp		
245	250	255
Tyr Gln Val Gly Ile Val Ser Trp Gly Met Gly Cys Gly Lys Lys Asn		
260	265	270
Leu Pro Gly Val Tyr Thr Lys Val Ser His Tyr Val Arg Trp Ile Ser		
275	280	285
Lys Gln Thr Ala Lys Ala Gly Arg Pro Tyr Met Tyr Glu Gln Asn Ser		
290	295	300
Ala Cys Pro Leu Val Leu Ser Cys Arg Ala Ile Leu Phe Leu Tyr Phe		
305	310	315
Val Met Phe Leu Leu Thr		
325		

<210> 145  
 <211> 624  
 <212> PRT  
 <213> Mus musculus

<400> 145  
 Met Thr Ser Leu His Gln Val Leu Tyr Phe Ile Phe Phe Ala Ser Val  
 1 5 10 15  
 Ser Ser Glu Cys Val Thr Lys Val Phe Lys Asp Ile Ser Phe Gln Gly  
 20 25 30  
 Gly Asp Leu Ser Thr Val Phe Thr Pro Ser Ala Thr Tyr Cys Arg Leu  
 35 40 45  
 Val Cys Thr His His Pro Arg Cys Leu Leu Phe Thr Phe Met Ala Glu  
 50 55 60  
 Ser Ser Ser Asp Asp Pro Thr Lys Trp Phe Ala Cys Ile Leu Lys Asp  
 65 70 75 80  
 Ser Val Thr Glu Ile Leu Pro Met Val Asn Met Thr Gly Ala Ile Ser  
 85 90 95  
 Gly Tyr Ser Phe Lys Gln Cys Pro Gln Gln Leu Ser Thr Cys Ser Lys  
 100 105 110

Asp	Glu	Tyr	Val	Asn	Leu	Asp	Met	Lys	Gly	Met	Asn	Tyr	Asn	Ser	Ser	115	120	125
Val	Val	Lys	Asn	Ala	Arg	Glu	Cys	Gln	Glu	Arg	Cys	Thr	Asp	Asp	Ala	130	135	140
His	Cys	Gln	Phe	Phe	Thr	Tyr	Ala	Thr	Gly	Tyr	Phe	Pro	Ser	Val	Asp	145	150	155
His	Arg	Lys	Met	Cys	Leu	Leu	Lys	Tyr	Thr	Arg	Thr	Gly	Thr	Pro	Thr	165	170	175
Thr	Ile	Thr	Lys	Leu	Asn	Gly	Val	Val	Ser	Gly	Phe	Ser	Leu	Lys	Ser	180	185	190
Cys	Gly	Leu	Ser	Asn	Leu	Ala	Cys	Ile	Arg	Asp	Ile	Phe	Pro	Asn	Thr	195	200	205
Val	Leu	Ala	Asp	Leu	Asn	Ile	Asp	Ser	Val	Val	Ala	Pro	Asp	Ala	Phe	210	215	220
Val	Cys	Arg	Arg	Ile	Cys	Thr	His	His	Pro	Thr	Cys	Leu	Phe	Phe	Thr	225	230	235
Phe	Phe	Ser	Gln	Ala	Trp	Pro	Lys	Glu	Ser	Gln	Arg	His	Leu	Cys	Leu	245	250	255
Leu	Lys	Thr	Ser	Glu	Ser	Gly	Leu	Pro	Ser	Thr	Arg	Ile	Thr	Lys	Ile	260	265	270
His	Ala	Leu	Ser	Gly	Phe	Ser	Leu	Gln	His	Cys	Arg	His	Ser	Val	Pro	275	280	285
Val	Phe	Cys	His	Pro	Ser	Phe	Tyr	Asn	Asp	Thr	Asp	Phe	Leu	Gly	Glu	290	295	300
Glu	Leu	Asp	Ile	Val	Asp	Val	Lys	Gly	Gln	Glu	Thr	Cys	Gln	Lys	Thr	305	310	315
Cys	Thr	Asn	Asn	Ala	Arg	Cys	Gln	Phe	Phe	Thr	Tyr	Tyr	Pro	Ser	His	325	330	335
Arg	Leu	Cys	Asn	Glu	Arg	Asn	Arg	Arg	Gly	Arg	Cys	Tyr	Leu	Lys	Leu	340	345	350
Ser	Ser	Asn	Gly	Ser	Pro	Thr	Arg	Ile	Leu	His	Gly	Arg	Gly	Gly	Leu	355	360	365
Ser	Gly	Tyr	Ser	Leu	Arg	Leu	Cys	Lys	Met	Asp	Asn	Val	Cys	Thr	Thr	370	375	380
Lys	Ile	Asn	Pro	Arg	Val	Val	Gly	Gly	Ala	Ala	Ser	Val	His	Gly	Glu	385	390	395
Trp	Pro	Trp	Gln	Val	Thr	Leu	His	Ile	Ser	Gln	Gly	His	Leu	Cys	Gly	405	410	415

Gly Ser Ile Ile Gly Asn Gln Trp Ile Leu Thr Ala Ala His Cys Phe  
 420 425 430  
 Ser Gly Ile Glu Thr Pro Lys Lys Leu Arg Val Tyr Gly Gly Ile Val  
 435 440 445  
 Asn Gln Ser Glu Ile Asn Glu Gly Thr Ala Phe Phe Arg Glu Gln Glu  
 450 455 460  
 Met Ile Ile His Asp Gln Tyr Thr Thr Ala Glu Ser Gly Tyr Asp Ile  
 465 470 475 480  
 Ala Leu Leu Lys Leu Glu Ser Ala Met Asn Tyr Thr Asp Phe Gln Arg  
 485 490 495  
 Pro Ile Cys Leu Pro Ser Lys Gly Asp Arg Asn Ala Val His Thr Glu  
 500 505 510  
 Cys Trp Val Thr Gly Trp Gly Tyr Thr Ala Leu Arg Gly Glu Val Gln  
 515 520 525  
 Ser Thr Leu Gln Lys Ala Lys Val Pro Leu Val Ser Asn Glu Glu Cys  
 530 535 540  
 Gln Thr Arg Tyr Arg Arg His Lys Ile Thr Asn Lys Met Ile Cys Ala  
 545 550 555 560  
 Gly Tyr Lys Glu Gly Gly Lys Asp Thr Cys Lys Gly Asp Ser Gly Gly  
 565 570 575  
 Pro Leu Ser Cys Lys Tyr Asn Gly Val Trp His Leu Val Gly Ile Thr  
 580 585 590  
 Ser Trp Gly Glu Gly Cys Gly Gln Lys Glu Arg Pro Gly Val Tyr Thr  
 595 600 605  
 Asn Val Ala Lys Tyr Val Asp Trp Ile Leu Glu Lys Thr Gln Thr Val  
 610 615 620

<210> 146  
 <211> 213  
 <212> PRT  
 <213> Homo sapiens

<400> 146  
 Glu Phe Pro Trp Val Val Ser Leu Gln Asp Ser Gln Tyr Thr His Leu  
 1 5 10 15  
 Ala Phe Gly Cys Ile Leu Ser Glu Phe Trp Val Leu Ser Ile Ala Ser  
 20 25 30  
 Ala Ile Gln Asn Arg Lys Asp Ile Val Val Ile Val Gly Ile Ser Asn  
 35 40 45

Met Asp Pro Ser Lys Ile Ala His Thr Glu Tyr Pro Val Asn Thr Ile  
 50 55 60  
 Ile Ile His Glu Asp Phe Asp Asn Asn Ser Met Ser Asn Asn Ile Ala  
 65 70 75 80  
 Leu Leu Lys Thr Asp Thr Ala Met His Phe Gly Asn Leu Val Gln Ser  
 85 90 95  
 Ile Cys Phe Leu Gly Arg Met Leu His Thr Pro Pro Val Leu Gln Asn  
 100 105 110  
 Cys Trp Val Ser Gly Trp Asn Pro Thr Ser Ala Thr Gly Asn His Met  
 115 120 125  
 Thr Met Ser Val Leu Arg Lys Ile Phe Val Lys Asp Leu Asp Met Cys  
 130 135 140  
 Pro Leu Tyr Lys Leu Gln Lys Thr Glu Cys Gly Ser His Thr Lys Glu  
 145 150 155 160  
 Glu Thr Lys Thr Ala Cys Leu Gly Asp Pro Gly Ser Pro Met Met Cys  
 165 170 175  
 Gln Leu Gln Gln Phe Asp Leu Trp Val Leu Arg Gly Ile Leu Asn Phe  
 180 185 190  
 Gly Gly Glu Thr Cys Pro Gly Leu Phe Leu Tyr Thr Lys Val Glu Asp  
 195 200 205  
 Tyr Ser Lys Trp Ile  
 210

<210> 147

<211> 207

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Trypsin domain  
sequence

<400> 147

Ser Phe Pro Trp Gln Val Ser Leu Gln Val Ser Ser Gly His Phe Cys  
 1 5 10 15

Gly Gly Ser Leu Ile Ser Glu Asn Trp Val Leu Thr Ala Ala His Cys  
 20 25 30

Val Ser Gly Ala Ser Ser Val Arg Val Val Leu Gly Glu His Asn Leu  
 35 40 45

Gly Thr Thr Glu Gly Thr Glu Gln Lys Phe Asp Val Lys Lys Ile Ile  
 50 55 60

Val His Pro Asn Tyr Asn Pro Asp Thr Asn Asp Ile Ala Leu Leu Lys  
 65 70 75 80  
 Leu Lys Ser Pro Val Thr Leu Gly Asp Thr Val Arg Pro Ile Cys Leu  
 85 90 95  
 Pro Ser Ala Ser Ser Asp Leu Pro Val Gly Thr Thr Cys Ser Val Ser  
 100 105 110  
 Gly Trp Gly Arg Thr Lys Asn Leu Gly Thr Ser Asp Thr Leu Gln Glu  
 115 120 125  
 Val Val Val Pro Ile Val Ser Arg Glu Thr Cys Arg Ser Ala Tyr Gly  
 130 135 140  
 Gly Thr Val Thr Asp Thr Met Ile Cys Ala Gly Ala Leu Gly Gly Lys  
 145 150 155 160  
 Asp Ala Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Ser Asp Gly  
 165 170 175  
 Glu Leu Val Gly Ile Val Ser Trp Gly Tyr Gly Cys Ala Val Gly Asn  
 180 185 190  
 Tyr Pro Gly Val Tyr Thr Arg Val Ser Arg Tyr Leu Asp Trp Ile  
 195 200 205

<210> 148  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: PCR Primer  
 sequence

<400> 148  
 gatccttgga aacaaccaga tc 22

<210> 149  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: PCR Primer  
 sequence

<400> 149  
 cttcctgtcc accgtggagg acct 24

<210> 150  
 <211> 22  
 <212> DNA



<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer  
sequence

<400> 150

ctccaggttg ttgtaggaca ga

22

<210> 151

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer  
sequence

<400> 151

tttgcagtgc aacacagata tc

22

<210> 152

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer  
sequence

<400> 152

ttacggtcta cacaaaagct ttccca

26

<210> 153

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer  
sequence

<400> 153

gcttcctgaa ggttttggtg a

21

<210> 154

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer  
sequence

<400> 154	
ggtttgtgct gcttctaaca tc	22
<210> 155	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: PCR Primer sequence	
<400> 155	
acaccagcgg tgctcctctt caat	24
<210> 156	
<211> 22	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: PCR Primer sequence	
<400> 156	
cattgagcat cttacggttt gt	22
<210> 157	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: PCR Primer sequence	
<400> 157	
ctgggcatcc agaagatctt	20
<210> 158	
<211> 25	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: PCR Primer sequence	
<400> 158	
ctctgcaagt acagcggcta cctgg	25

<210> 159  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
           sequence  
  
 <400> 159  
 cctcgtcatt cagttccagt ac 22  
  
 <210> 160  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
           sequence  
  
 <400> 160  
 ggtgccata cgaagctctt a 21  
  
 <210> 161  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
           sequence  
  
 <400> 161  
 agttcgtcag cttccccacc cag 23  
  
 <210> 162  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
           sequence  
  
 <400> 162  
 catgacaggg atcaccttag ag 22  
  
 <210> 163  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: PCR Primer  
 sequence

<400> 163  
 gagaactgtc cagctcaatg tc 22

<210> 164  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: PCR Primer  
 sequence

<400> 164  
 ctccacagac catcaccatc ttcagg 26

<210> 165  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: PCR Primer  
 sequence

<400> 165  
 tatgaggtgt tttgcaggat ct 22

<210> 166  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: PCR Primer  
 sequence

<400> 166  
 agcaagattg ctcacacaga gt 22

<210> 167  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: PCR Primer  
 sequence

<400> 167

ccagtcaata ccatcatcat ccatgagg 28

<210> 168  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer  
sequence

<400> 168  
tatgttggtg ctcattggagt tg 22

<210> 169  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer  
sequence

<400> 169  
tggcttattc agaagagcat aaagg 25

<210> 170  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer  
sequence

<400> 170  
agtgactaga gatcctccag gtcagtt 27

<210> 171  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer  
sequence

<400> 171  
tggcttattc agaagagcat aaagg 25

<210> 172  
<211> 27

<212> DNA  
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 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
           sequence  
  
 <400> 172  
 agtgactaga gatcctccag gtcagtt 27  
  
  
 <210> 173  
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 <212> DNA  
 <213> Artificial Sequence  
  
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           sequence  
  
 <400> 173  
 cgcgtagacct tgcccctctt g 21  
  
  
 <210> 174  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
           sequence  
  
 <400> 174  
 cgtcacacctg agcccgtccg tc 22  
  
  
 <210> 175  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
           sequence  
  
 <400> 175  
 gtttcggggc ctgtgcgg 18  
  
  
 <210> 176  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence  
  
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sequence

<400> 176  
gtggtgccca tttgttttcc tcagagt 27

<210> 177  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer  
sequence

<400> 177  
ggtcattggaa gaacgggaag aggt 24

<210> 178  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer  
sequence

<400> 178  
ctggggagggg tcaaagaagg agct 24

<210> 179  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer  
sequence

<400> 179  
ctccactcc tgctgcttct gact 24

<210> 180  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer  
sequence

<400> 180  
aaggctgggc ctaaccctag ctcac 25

<210> 181  
 <211> 25  
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 <223> Description of Artificial Sequence: PCR Primer  
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 <400> 181  
 gtccctgcag gagaagccag tgtac 25  
  
 <210> 182  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
           sequence  
  
 <400> 182  
 ctgggcaaat cctcacttgc ttgtct 26  
  
 <210> 183  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
           sequence  
  
 <400> 183  
 cctctttacc acacagaacc aagcact 27  
  
 <210> 184  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
           sequence  
  
 <400> 184  
 agccccagtg tgcaactatc aaaaac 26  
  
 <210> 185  
 <211> 10  
 <212> DNA  
 <213> Artificial Sequence



<220>

<223> Description of Artificial Sequence: SAGE library  
tag sequence

<400> 185  
agcctgttgc

10

<210> 186

<211> 79

<212> PRT

<213> Homo sapiens

<400> 186

Cys Tyr His Gly Asn Gly Glu Asn Tyr Arg Gly Thr Ala Ser Thr Thr  
1 5 10 15

Glu Ser Gly Ala Pro Cys Gln Arg Trp Asp Ser Gln Thr Pro His Arg  
20 25 30

His Ser Lys Tyr Thr Pro Glu Arg Tyr Pro Ala Lys Gly Leu Gly Glu  
35 40 45

Asn Tyr Cys Arg Asn Pro Asp Gly Asp Glu Arg Pro Trp Cys Tyr Thr  
50 55 60

Thr Asp Pro Arg Val Arg Trp Glu Tyr Cys Asp Ile Pro Arg Cys  
65 70 75

<210> 187

<211> 81

<212> PRT

<213> Homo sapiens

<400> 187

Cys Tyr Ala Gly Asn Gly Glu Ser Tyr Arg Gly Thr Ala Ser Thr Thr  
1 5 10 15

Lys Ser Gly Lys Pro Cys Gln Arg Trp Asp Ser Gln Thr Pro His Leu  
20 25 30

His Arg Phe Thr Pro Glu Arg Phe Pro Glu Leu Gly Leu Glu His Asn  
35 40 45

Tyr Cys Arg Asn Pro Asp Gly Asp Ser Glu Gly Pro Trp Cys Tyr Thr  
50 55 60

Thr Asp Pro Asn Val Arg Trp Glu Tyr Cys Asp Ile Pro Gln Cys Glu  
65 70 75 80

Ser

<210> 188

<211> 81  
 <212> PRT  
 <213> Homo sapiens

<400> 188  
 Arg Asp Cys Tyr Ala Gly Asn Gly Glu Ser Tyr Arg Gly Thr Ala Ser  
 1 5 10 15  
 Thr Thr Lys Ser Gly Lys Pro Cys Gln Arg Trp Asp Ser Gln Thr Pro  
 20 25 30  
 His Leu His Arg Phe Thr Pro Glu Arg Phe Pro Glu Leu Gly Leu Glu  
 35 40 45  
 His Asn Tyr Cys Arg Asn Pro Asp Gly Asp Ser Glu Gly Pro Trp Cys  
 50 55 60  
 Tyr Thr Thr Asp Pro Asn Val Arg Trp Glu Tyr Cys Asp Ile Pro Gln  
 65 70 75 80  
 Cys

<210> 189  
 <211> 75  
 <212> PRT  
 <213> Homo sapiens

<400> 189  
 Cys Phe Val Arg Leu Pro Asn Thr Lys Leu Pro Asp Phe Ser Pro Ile  
 1 5 10 15  
 Val Ile Ser Val Ala Ser Leu Glu Glu Cys Ala Gln Lys Cys Leu Asn  
 20 25 30  
 Ser Asn Cys Ser Cys Arg Ser Phe Thr Tyr Asn Asn Asp Thr Lys Gly  
 35 40 45  
 Cys Leu Leu Trp Ser Glu Ser Ser Leu Gly Asp Ala Arg Gln Leu Leu  
 50 55 60  
 Pro Ser Gly Gly Val Asp Tyr Tyr Glu Lys Ile  
 65 70 75

<210> 190  
 <211> 181  
 <212> PRT  
 <213> Homo sapiens

<400> 190  
 Met Gly Lys Leu Val Ser Arg Arg Ser Tyr Glu His Trp Glu Tyr Leu  
 1 5 10 15  
 Thr Ala Thr Leu Ile Ser Ile Gly Val Ser Met Phe Leu Leu Ser Ser  
 20 25 30

Gly Pro Glu Pro Arg Ser Ser Pro Ala Thr Thr Leu Ser Gly Leu Ile  
                   35                                  40                                  45  
 Leu Leu Ala Gly Tyr Ile Ala Phe Asp Ser Phe Thr Ser Asn Trp Gln  
           50                                  55                                  60  
 Asp Ala Leu Phe Ala Tyr Lys Met Ser Ser Val Gln Met Met Phe Gly  
   65                                  70                                  75                                  80  
 Val Asn Phe Phe Ser Cys Leu Phe Thr Val Gly Ser Leu Leu Glu Gln  
                                   85                                  90                                  95  
 Gly Ala Leu Leu Glu Gly Thr Arg Phe Met Gly Arg His Ser Glu Phe  
                   100                                  105                                  110  
 Ala Ala His Ala Leu Leu Leu Ser Ile Cys Ser Ala Cys Gly Gln Leu  
           115                                  120                                  125  
 Phe Ile Phe Tyr Thr Ile Gly Gln Phe Gly Ala Ala Val Phe Thr Ile  
   130                                  135                                  140  
 Ile Met Thr Leu Arg Gln Ala Phe Ala Ile Leu Leu Ser Cys Leu Leu  
 145                                  150                                  155                                  160  
 Tyr Gly His Thr Val Thr Val Val Gly Gly Leu Gly Val Ala Val Val  
                                   165                                  170                                  175  
 Phe Ala Ala Leu Leu  
           180

<210> 191  
 <211> 68  
 <212> PRT  
 <213> Homo sapiens

<400> 191  
 Trp Tyr Ser Ser Pro Pro Leu Tyr Val Tyr Trp Phe Arg Asp Gly Glu  
   1                                  5                                  10                                  15  
 Ile Pro Tyr Tyr Ala Glu Val Val Ala Thr Asn Asn Pro Asp Arg Arg  
           20                                  25                                  30  
 Val Lys Pro Glu Thr Gln Gly Arg Phe Arg Leu Leu Gly Asp Val Gln  
           35                                  40                                  45  
 Lys Lys Asn Cys Ser Leu Ser Ile Gly Asp Ala Arg Met Glu Asp Thr  
   50                                  55                                  60  
 Gly Ser Tyr Phe  
   65